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COMPARING RESOURCES FOR SUBJECTS IN SEVERE SITUATIONS. CRXSIS PROJECT

FINAL HANDBOOK

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Comparing Resources for Subjects in Severe Situations

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INTRODUCTION

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We are witnessing in the 21st century the emergence of and growing concern about major international issues which will mark or continue to mark the political and educational agendas of many countries, such as active ageing, the digital divide and cybersecurity, cultural heritage conservation, rural abandonment, youth employability, sustainable development and public health. All these topics are opening up new content horizons for those in Adult Education, with a special focus on older people, who want to improve their knowledge and competences, and stay active in the field of lifelong learning, in order to be able to develop an active and informed citizenship with regard to these challenges of today's society. This handbook is the result of the educational project "Comparing Resources for Subjects in Severe Situations" (CRxSiSS). Referencia 2020-1-ES01-KA204-083103). This project has been funded by the Erasmus+ KA204 programme and has had a duration of three years from September 2020 to August 2023. The participating entities, and to which the authors of this work belong, are the following: University of Malaga (Spain) with its programme Aula de Mayores+55; and coordinator of the project; Tierra de Maestros (TdM, Spain), private entity with courses and activities of promotion and cultural awareness in Adult Education; Università della LiberEtà (ULE, Italy) as a Popular University closely related to the municipal and regional government; Intercultural Association FOR ALL (IAFA, Portugal) as an institution specialising in adult mobility in entrepreneurship and interculturality; GEA (Slovenia) through its numerous social programmes on environment and responsible consumption, and the Public Health Service of Belgrade (GZZJZ, Serbia) as a public entity for awareness raising and training on major health issues such as pandemics, have formed the CRxSiSS project consortium. First of all, I would like to express my deepest gratitude to all of them for their collaboration and good work.

In order to achieve the objectives of this project, it was necessary to establish a scenario for the exchange of pedagogical approaches and educational resources on issues of crucial importance and to which citizens must respond unanimously. A fundamental objective was to develop a set of mobilities, both for teachers and students, where each participating entity, specialised in one of these topics, would share their experience and good practices developed in their geographical area, both by themselves and by other collaborating entities nearby, in such a way that the exchange effect would be multiplied both at transnational and local level.

Furthermore, these actions would serve as a basis for improving the teaching skills of the teachers involved, as well as the programmes, methodologies and resources of their institutions of origin, and therefore the quality of their students' training, skills and knowledge, helping them to face and act upon the current challenges of a changing society strongly influenced by the issues described above. This publication aims to bring these objectives together.

The teachers and trainers who work with these groups of learners (senior universities, adult centres, associations, etc.) are of vital importance in using and expanding new forms of teaching in this field. This is why we want to focus on this group of professionals so that they can act as

agents of change, providing them with new knowledge, methodologies and resources, as well as on their students, but without forgetting the involvement of other fundamental agents, such as the managers of training actions at both public and private levels, and at different scales.

There is already a significant diversity of materials developed in the framework of European projects and other calls for proposals, which address these challenges in different ways and in isolation. However, with the following proposal we want to tackle them from a holistic perspective that helps to achieve a varied set of knowledge and competences, and where the promotion of citizenship in response to the great educational challenges of the 21st century is the central pillar.

These objectives would therefore mainly revolve around the mobilities of teachers and students, and the main tangible result of the project, which is this publication, produced collaboratively and as a final compendium of the exchange developed during these three years of common journey. For all these reasons, the specific objectives of CRxSiSS were as follows:

- To create an exchange scenario regarding the key topics of the project involving staff and students of the partners and collaborating organisations.

- As a result of this exchange: 1) To elaborate educational materials usable at European level (e.g. manual for teachers, specific presentations, etc.), and 2) To introduce elements of improvement in the programmes, methodologies and resources of the entities involved.

As general objectives we wanted to:

- To promote the improvement of the knowledge and competences of the beneficiary groups (teachers and students).

- To contribute to social integration through greater awareness and training in reference to the central themes of the project.

- To stimulate, in the teaching staff, a teaching update in this line.

- To stimulate, in the students, an active citizenship in response to the challenges posed in the CRxSiSS project.

The main results of CRxSiSS were closely related to the scheme of activities of the mobilities carried out, for teachers and students, to be developed within the scope of the project, as a basis for the exchange of methodologies and good practices. In this way, we planned a programme of mobilities based on two exchange events where one entity of the consortium, which acted as host, with the collaboration of another entity, organised a joint training event of short duration for teachers, as well as a course structured in combined face-to-face and virtual mobilities for students, both of 5 days duration, and separated in time in 1-3 months. Thus, Università delle Libertà del Friuli-Venezia Giulia (ULE) organised in Udine (Italy) in collaboration with the Institute of Public Health of Belgrade the combined training with the themes "Use and teaching of ICT against the digital divide and improvement of cybersecurity" and "Public health in everyday life and in pandemic situations". On the other hand, the GEA Institute organised in Kranj and Velenje, in collaboration with IAFA (Intercultural Association FOR ALL) courses on "Environmental protection, sustainable development and responsible consumption" and "Entrepreneurship in rural areas as a driver of employability". Finally, the University of Malaga (UMA) together with the organisation Tierra de Maestros organised training events in Malaga and Antequera on "educational challenges for active ageing" and "cultural heritage as a vehicle for social development". Both courses, for teachers and students, were based on the same philosophy, enriching and complementing the results of the exchange, their specific objectives were different: more focused on updating and improving teachers, for the former, and on improving knowledge and skills aimed at active citizenship, for the latter.

As a fundamental result of all these training activities, we present the following publication, as a practical guide or handbook for trainers and training managers, as a compendium of the results of the academic exchange, which includes a set of guidelines and recommendations in the field of adult education around the key themes of CRxSiSS, as well as possible contents, methodologies and resources that promote an update and improvement of the quality of teaching.

In short, CRxSiSS aimed to promote, especially through meetings of teachers and courses for students of adult education programmes, and especially for older learners, the exchange of experiences and best practices. The aim of CRxSiSS was to promote the exchange of experiences, good practices and contents of interest in topics of great relevance in the current European society as a whole (active ageing, digital divide and cybersecurity, conservation of cultural heritage, youth employability, rural abandonment, sustainable development and public health), thus creating a scenario for dialogue and exchange at transnational level which, from the diversity of the natures of the participating entities and countries, would deepen the need to fight from education in the promotion and improvement of key concepts to promote a common European identity: active ageing, digital world, heritage, environment and responsible consumption, health, etc. In this regard, it is therefore important to highlight the promotion of active citizenship in response to these major challenges of 21st century European society, as well as to include the intergenerational perspective, covering the different age cohorts within adult education and lifelong learning.

CHAPTER 1

SPACES AND TIMES IN PEOPLE'S LIFE CYCLE: LIVING BETTER FOR THOSE WHO LIVE LONGER

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SUMMARY:

The immediacy of the accelerated daily life of our existence, with its routines and demands on time, contributes to an unconscious sense of being, being and living of the human species. Answering the questions of where we live, what we are, what our life cycle is and what needs are satisfied in order to live better, in the stages of life, brings us closer to an awareness of reality and involves respecting the diversity of the rest of living organisms. The requirements of each life stage are very different according to territories, social groups, age and sex. But even more so, if we hold up a mirror to our own image and that of the human groups that preceded us, observing that we live longer and that we must learn to live better.

Keywords: Active ageing, Life cycle, Biodiversity, Adaptation, Longevity.

1. INTRODUCTION

Where do we live? Our roots as a human species are on planet Earth, which is part of the solar system and revolves around the sun, a star at the centre of the solar system that emits energy in the form of light and heat. The layer where the diversity of life develops and living things interact on Planet Earth is called the biosphere, made up of water, land, and a thin mass of air that we call the atmosphere. The biosphere reaches from the 10 km altitude in the atmosphere to the ocean floor. "Gaia is alive, not only because of the biodiversity of species it harbours in its variety of ecosystems, but also because it itself, over millions of years, has been modelling its physiognomy, transforming its landscapes (terrestrial, coastal, marine) and modifying its living conditions" (Escudero, Martín et al. 2023: sp.).

All living organisms, including the human species, have been exposed to these changing conditions of life in the environment in their evolutionary processes of adaptation or natural selection for survival, as the conditions of the environment are decisive for this, and unavoidable to cover people's basic needs.

We are not the only species that inhabits the Earth, although it may seem so because of the blind attitude towards the repercussions of actions in the environment (to cover the growing needs for energy, resources and their transformation into products), we share and interact with other living organisms, other animal, plant, vertebrate and invertebrate species, in the various terrestrial, aerial and aquatic systems, whether surface, underground or oceanic waters.

Like some of these species, we developed strategies for foraging, defending ourselves, hunting, protecting our young and grouping together. These groups were initially clans, with kinship relationships. Later with specific relationships that transcended the family group in villages, towns or cities to make the most of the social organisation of work and the sharing of tasks. Technological advances in agricultural, livestock and industrial activities, in order to produce more and better food, made food accessible, limiting famines.

New discoveries in medicine and advances in hygiene brought many diseases and pandemics under control, protecting us from pain and suffering and reducing human mortality. In the demographic transition model, a cycle of population growth begins, unequal in time according to the degree of progress and development of the countries, but with the same tendency to increase life expectancy, population and ageing.

The accelerated daily life of our existence, with its routines and demands on our time, has contributed to distancing us from our origins as living beings, distancing us from Gaia, having a sense of being, being and living of the human species that is unaware of its origins. As a species we have been able to meet with our actions the challenges of getting more food, defending ourselves from other species, grouping ourselves into villages and mega-cities and optimising health processes. Now, in the middle of the 21st century, we face new challenges, the need to preserve our habitat and its biodiversity, the need to generate intergenerational spaces of information, learning and participation to face the problems derived from the increase in longevity in the population, since our social and economic structures do not seem to be fully aware of this. We live in a world in constant crisis and where it is necessary to confront, through continuous education and training, the different situations that threaten today's societies.

With this philosophy, and empirical evidence, the essay carries out a conceptual bibliographic and webographic review to answer the questions initially posed in section 1. In section 2, we respond to the objective of recognising the place where we live, our origins on Planet Earth, determining the characteristics of the spaces in which we survive and develop our cultural framework. In section 3, we respond to the objective of learning about our life cycle together with that of other living organisms, addressing each of the stages. We focus on the stage of ageing and in section 3.3, we analyse the synonyms used to name the group of older people and incorporate fragments of three life stories where prejudices and stereotypes about "old age" are shown and identified to be resolved, such as ageism, obsolete mentalities about the model of old age transmitted. In section 4, we respond to the objective of identifying the needs to be satisfied in order to live better and longer, setting out the two most relevant theories for identifying people's needs, indicating how they would affect older people. In section 5, we conclude by showing the keys to the new paradigm of old age.

2. SPACES FOR SURVIVING BY DEVELOPING LEARNING AND CULTURE

From the beginning, human groups covered their needs for safe shelter, food, clothing, utensils and defence, using the energy of their own bodies or that of other animals. They transformed the resources and materials of the environment, of the place where the group was settled, with the skill of their hands in a handmade way. As practice, technique and skill developed and were passed on, new technical advances were made, medicines were developed, and inventions were made which, with the knowledge and specialisation of tasks, made life easier and longer for people.

In these groups, it was the older people who treasured the knowledge and know-how. The accumulated experience of the older people was a well of wisdom for the younger groups, who were eager to learn, so that the older people acquired a value for the transmission of culture and the learning of their ancestral knowledge accumulated over time.

Longevity (Moliner, M. 1990: 283), understood as the circumstance of reaching advanced age, "to which the population is heading in the demographic projections, 119 million elderly people by 2030 (...) it would seem that the current economic system, by the mere fact of quantifying and becoming aware of the situation in order to resolve the effects that affect people when they accumulate years, dehumanises this age group" (Escudero, C. A., Delgado, J. J., Nuevo, A., Martín, F. M., 2022:314). Living organisms in the process of gestation, in order to reproduce and thrive with biological success during the life cycle of their offspring, need safe

spaces with indispensable characteristics for survival. Living organisms exist in diverse habitats where they can obtain everything necessary for their existence. They know through learning, adaptation and evolution of their own species where they can most easily find food for their offspring and meet the needs for shelter, water, air and land, which are indispensable for the basic functions of life, such as nourishment and respiration. In Table 1, we show with an example, the life span of various species depending on the habitat in the wild, or in a safe space, but in captivity, such as a zoo or animal park. We observe that the advantages in life expectancy are notable when living in captivity, because of the security of the food supply and the fact that they are no longer prey. This is the price of captivity, the denaturalisation of these species living outside their wild habitat.

Tabla 1. Table 1. Life span of various species according to natural or captive habitat

<i>Animals</i>	<i>Habitat</i>	<i>Life in the natural environment</i>	<i>Life in a safe space: captivity</i>
The hippopotamus	Aquatic land, rivers and lakes	20 years on average	Up to 50 years
The Zebra	Terrestrial habitat	Average 15 years	Nearly 30 years
The Dolphin	Aquatic habitat	Average 30 years	80 years on average
The Iberian lynx	Terrestrial habitat	From 10 to 15 years old	Around 20 years old
The stork	Aerial and terrestrial habitat	Between 15 and 20 years old.	Up to 30 years in captivity

Own elaboration. Source: Rodríguez, 2010.

In addition to feeding on other animals and/or plants in suitable environments, they need a genetic inheritance to preserve them from some diseases, as well as the ability to learn the behaviour of their conspecifics for surveillance, assistance, camouflage and concealment; developing abilities to hunt, capture, collaborate with each other, kill with fangs, threatening horns and claws, as well as deploying defence mechanisms; ingenious transformations to avoid becoming food for other animals: legs to run away, wings to fly, immobility resembling death, camouflage to confuse, colouring modification, poisons, armour.

The concept of security for the human species encompasses more than just a safe shelter or habitat and also decent housing. Security is desired as a guarantee of living freedom in a broader sense than being free in nature, it is in the emblematic sense of the exercise of rights and freedoms linked to responsible, participatory, democratic and equitable citizenship throughout life.

3. LIFE CYCLE IN LIVING ORGANISMS.

What is our life cycle? In María Moliner's Diccionario de uso del español (1990: 623-I) in the 2nd meaning of the word cycle, she defines it as the "period of time that is considered complete from a certain point of view", from nature it would allude to the transformations of life in the vital process of an organism. The life cycle of every living organism is marked by time, crossed by the four seasons and the alternation of day and night. It is a life process in a loop, different for each organism, from birth to life, growth with success in adapting to the environment, to the twilight of ceasing to exist with death. And with this, with the energy produced in the decomposing processes, to feed back more life, repeating the same loop again with the same scheme in the biological process: birth to life, development of life, reproduction of life, and

death coming out of that life.

The phases into which they are classified are universally generalised, from birth to death, contain a continuous process involving development, both positive and otherwise, and materialise through stages involving transformations and a diversity of states to meet needs.

Although the classifications are diverse, in the human species the general subdivisions follow the following chronological sequence: prenatal, natal from 0-6 years of age (infancy 1st childhood and 2nd childhood), childhood from 6-12 years of age, adolescence (puberty differentiated according to age and sex into early from 12-15 years, and late from 15-20 years), youth from 20-25 years, adulthood (young adulthood 25-40 years, intermediate 40-50 and late 50-60 years), and senescence. In these last two periods of life, adulthood and senescence, people maintain a greater diversity among themselves in the characteristics attributed to these age groups than in the stages of childhood and youth.

3.1. Adulthood

Adulthood is the period of life between the ages of 25 and 60 when a person reaches his or her full development,

"that is to say, it reaches adulthood. In the case of human life, such fullness corresponds not only to the maximum development of a person's physical or organic capacities, but also to a certain psychological maturity. Thus, in concrete terms, adulthood implies the overcoming of the stages of childhood, adolescence and full youth. At the same time, it is the stage that precedes old age, today known as the third age. In each person, the age of adulthood can vary according to a great diversity of factors, such as biological factors (genetic predisposition, hormonal development, etc.) or cultural or psychological factors (education, life circumstances, dominant cultural environment, daily habits, diet, etc.) (...) It can happen that a person who has reached adulthood from a physical or biological point of view, has not reached full maturity" (Meanings. 2023: sp.).

3.2. Senescence

Senescence is the last stage of the life cycle in the development of people after adulthood in which the maximum development of biological potential is reached (Mansilla, 2000). From the point of view of the concept of economic activity and political legislation, the threshold is the age at which the population ceases to be active in employment according to the retirement age in countries. The World Health Organisation places it at 60 years of age. However, in terms of vigour, life expectancy, intellectual and emotional development and non-regulated work activity, there is a great diversity and complexity of situations between the sexes and genders that pass through this stage.

One of these situations are the various words with which they are called: old person, elder, senior, senil, third age. Old age is "the quality or state of being old (...) the age at which one is old" (Moliner, M. 1990:148-II). To be old "is applied to people and in some designations to animals, materials and things that have existed for a long time and denote it in their appearance" (Moliner, M. 1990:1525-II).

3.3. Words that hurt

Given that words generate realities, it would be useful to know how older people would like to be named or treated, given the rejection provoked by the use of some of these words in a pejorative sense. We show several excerpts from three life stories collected by Natasa Tordovid (2018: n.p.) for the foundation Help Age International Spain.

"I was swimming in the pool, there were a lot of people and among those people were two children. They were about 11 years old, the same age as when I won my first medal. Their laughter caught my attention, and that's when I realised they were pointing at me and saying to their friends 'Look at the old lady swimming' as if I was an alien. I felt embarrassed for doing what I love. Of course, I forgot to tell them my age. I am 77 years old, but I swim the same as when I was 11, 21,

24, 41 or 61. Now I wonder why sometimes young people, and sometimes older people, think that older women should not swim anymore? Is it because they think that at our age we are not fit to go into a pool? Or is it because we are older women who don't know how to swim or have forgotten it after so many years?"

In contrast to other cultures where older people are the repositories of experience and collective wisdom, in Western cultures people are socialised in learning processes by the cult and high value of youth, especially through advertisements in the media and on digital platforms, which generates a false perception of the value of age groups and intergenerational conflicts that can lead to discrimination, ageism, lack of humanitarian ethics, loneliness, which can be accentuated in situations of illness and dependence.

"I'm lying in a hospital bed where I can hear and see, but I can't move or answer the questions they ask me (...) and I hear how everyone talks about me". Yes, she's quite old, she's lived quite a few years" and I start to think that they shouldn't talk about me like that, I mean, I hear everything, they should be more discreet. Now that I'm here, I've been thinking about how difficult it is to be weak and powerless. I have lost my name and have become just a "sick old woman". If only I could wash my hair and visit the beauty parlour. Now I haven't had my hair washed for 15 days. Before I used to work in this hospital, in fact, I was a nurse and those who attend me used to be my colleagues. But now I am no longer their colleague and I am just an old woman lying on a bed".

If the word active ageing denotes health, as the absence of disability and dependence, a situation in which people in the most advanced age group of the population pyramid are immersed, a functional dependent person such as the one in the previous life story, who feels their emotional state altered, and this is detrimental to their own health, could have a satisfactory ageing if investment were made in psychosocial resources for training in their environment focused on improving emotional wellbeing.

"...when the saleswomen in the shops first scan me from head to toe with their eyes trying to guess my age. I have usually been told things like: Madam, we don't think this is appropriate for your age, that's for young people (...) Whose decision should it be about what I buy? I am aware of what I like to wear and the colours I love. The bad thing is that this kind of situation is getting worse and worse. One spring day I was with a friend looking for a nice place to have a coffee, most of them were full, but we still managed to find an empty table in one of the establishments. As soon as we approached the table, the waiter told us that they were full, to which I replied "What do you mean, full? This table is empty". To which they replied "We are full, there are no tables for you here". I was confused, surprised and embarrassed. There were no free tables for older women like us. Could it be that they don't want older women in their 20s, 30s? As I stood there thinking, two young women came in and sat at the free table. This is really a scandal".

In the fragment of this third life story we are shown a 66-year-old woman, who still likes to go to the shops, try on clothes and choose the colours she likes and have a coffee with friends, and she notices the reactions of the people who serve her. The negative stereotypes and prejudices that are passed on about age cause discomfort, confusion, surprise and embarrassment. It is a way of understanding ageing that is not very real, involuntarily, because it perceives the elderly person as the image of "old age" transmitted by the media as an economic and social scourge, subject to behaviours and beliefs of the past that is no longer healthy longevity with vital expectations and concerns that question the transmitted model.

3.4. Life cycle in other species

In the life cycle of the human species, genetic inheritance and environmental conditions play the same determining and conditioning role as in other species. However, breeding, the acquisition of skills through learning to obtain resources from the natural and social environment, reproduction and survival are more complex and heterogeneous than in other living organisms. We show two examples of life cycles in other species, the holm oak and the "hippocampus" or seahorse, which, although they develop in complex ecosystems and go

through the same vital stages in the diverse and peculiar biological process of each one, are far from the complexity that the socio-cultural environment brings to the human species.

In plant species such as the holm oak, which belongs to the genus *Quercus*, as well as cork oaks, gall oaks and kermes oaks, the birth and sprouting of a new holm oak has implied the flowering and death of the flower, the development of the acorn in the tree after eight or ten years and the fall of the acorn fruit in an environment favourable for life: limestone soil substrate, light, little water due to its adaptation to drought and fundamental nutrients (Ceballos and Ruiz de la Torre, 1995). In order for the new holm oak tree to grow, whose life cycle can last about a thousand years, its regeneration, in addition to being sexual, can be asexual, developing growth strategies by means of shoots, vines or roots in pastureland configurations. They also regenerate from vines or roots in the face of disturbances such as pruning, browsing, or fire" (Díaz and Pulido 2009:33) and also to give life to the diversity of species in the habitats of the dehesas, providing food for wild boars, Iberian pigs, wild birds, mice, wood pigeons, bulls.

The hatching of colour and life, of the cherry blossom, of the growth of the cherry, of its death and fall, is necessary for this fruit to germinate in the earth into a new cherry tree that will blossom and bear fruit again.

In marine species, such as the seahorse, a marine fish and protected species on the list of endangered species of the IUCN (International Union for Conservation of Nature), has one of its habitats in the south of the Portuguese Algarve, in the Natural Park of the Ria de Formosa, it is very vulnerable to climate change and to nautical and nature tourism, as well as to marine predators. It has a life cycle or average life expectancy of between one and five years. Sexual reproduction is monogamous, the female lays the eggs and, when mating, deposits them in the males' ventral pouch, where they gestate the offspring, fertilising and incubating them until hatching. They feed on other small fish, fish larvae and zooplankton. Their predatory strategy is that of fluorescent mimicry, remaining very still, waiting for their prey to pass by and then ambushing them to feed (Vida Animal 2022). In short, the life cycle and ageing is something natural, belonging to all species, and in the case of human beings it is vital to learn to adapt to its functioning in order to improve the quality of life.

4. NEEDS FOR BETTER LIVING AT DIFFERENT STAGES OF LIFE

The human species, like other living organisms, has developed strategies of predation, cooperation, competition, parasitism, mutualism and commensalism in the life cycle of its existence in order to adapt its behaviour to the diversity of habitats on Earth, transforming them to obtain what it needs to live: water, sunlight, air from which it obtains oxygen, food, mineral salts, shelter, etc. In contrast to the insufficient knowledge of the behaviour of other species, knowledge of the behaviour of the human species is more advanced and is the subject of interdisciplinary study. Is it sufficient for the life cycle of the human species to satisfy biological needs? Do the social and cultural artefacts constructed condition it?

We believe that in addition to the needs that correspond to our biological nature, there are others derived from the way we live on this planet, from our culture and from the historical period we have lived through, and which mobilise us to carry out certain actions to satisfy them. In order to identify them, theories have been developed, the most cited being that of the humanist psychologist Abraham Maslow (1943), who established a hierarchy of human needs to be achieved through human behaviour in order to satisfy self-fulfilment, representing them in five levels in a triangular pyramid model (see figure 1).

Figure 1. Hierarchy of human needs to be satisfied according to Maslow, A.



Maslow's hierarchy of needs

Source: <https://www.simplypsychology.org/maslow.html>.

In the review carried out by Elena Martínez (2023) of Maslow's pyramid, she differentiates the existence of types of needs:

"Basic needs are a set of elements whose scarcity or absence leads to a state of poverty. Basic human needs can be considered to be access to housing, health services, education and economic capacity(...) Basic needs are directly related to human rights. Unmet basic needs are an index or method used to determine the basic needs that exist in a given population and to identify, qualify and measure some dimensions of structural poverty (...) Basic needs are also related to those at the base of Maslow's pyramid".

As the model is based on the satisfaction of lower needs, as the motivating energy to climb the next level from the base to the peak of self-fulfilment, which would be the full sense of duty fulfilled in one's own goals achieved, the longer people live could be considered as a value to achieve these proposed goals. Thus, the age group would find it easier to achieve self-fulfilment by living longer. On the contrary, it could suffer from depressive or mental disorders due to the self-perception of non-fulfilment of goals.

From the second level of the pyramid, which contains the economic resources that are decisive for a good old age, together with health and integrity, advancing through the following levels up to the top, it could be assured that the basic needs of certain profiles of older people are not fully satisfied. Prejudices such as ageism, stereotypes that devalue ageing, lack of intergenerational esteem, care that overburdens the immediate family environment due to lack of dedication time, decrease in biological physical development due to declining health.

The other theory is that of Manfred Max-Neef, (Neef et al., 1986), who reflects on the needs of human beings and the articulation with nature that sustains them by illustrating it as a model in a matrix. Thus, if the concept of need is stripped of its economic meaning, development on a human scale would be limited. In the synthesis made on human needs and satisfactions through Max-Neef by Angélica Sánchez (2008: sp.) she explains that:

"With the prevailing economic model we have given value to objects, but not to people, a fundamental premise that the authors convey to us. But how can we measure the qualitative growth of people? To this the authors answer: in the quality of life, which in turn depends on the possibilities that people have to adequately satisfy their fundamental human needs (...). That said, human needs are finite, few, classifiable and universal for all cultures and all historical periods. The authors classify them in two categories: first, the needs of being, having, doing and being; and as a second category, the needs of subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom (...) it has been traditionally believed and as an imposition of the economic model that human needs tend to be infinite, that they are constantly changing and that, therefore, we must satisfy them at any cost, whether social, economic or by exploiting our natural resources".

Culture, which we know changes over time, is important in this model. Also, transforming economic models so that they are respectful of other living organisms and the environment. Where the quality of life of the elderly and children is more participative and participatory in order to achieve equity. Older people must be involved, because they treasure the potential of their lived experience, lives that have been important and that they can pass on to younger generations, they must be involved in every environment where they are, motivating them to get involved.

5. CONCLUSIONS

Throughout its existence, the human species has been able to meet the challenges of feeding, defending itself, sheltering and grouping together in spaces of various sizes, urbanising nature and optimising health processes. As the human species that we are, as has happened with other species, our organism has undergone important changes, we have adapted to survive the conditions and cycles of life, life expectancy and longevity have increased, manifesting needs in tune with this new reality: a higher cultural level, improved health compared to previous generations together with the availability of time and a better physical and mental state to enjoy it. This is why old age is not a coincidence. It responds to genetic and cultural inheritance together with our adaptations to changing environments. We know from experience that when these conditions change suddenly, catastrophes, pandemics such as the recent COVID-19, environmental impacts resulting from our miscalculated actions, then we do not survive because we are maladapted to the rapidity of these changes.

For those who live longer and to be able to break with outdated stereotypes and prejudices that affect them, it is necessary to generate intergenerational spaces for information, learning and participation in order to face the problems and situations derived from the increase in longevity in the population. Make it clear that there are very different profiles of old age, more so than in adolescence. Old age does not necessarily mean dependence.

Our social and economic structures are generating studies and opinions in this direction (for example: WHO Ageing and Health 2015, Action Plan on the Health of Older People including Active and Healthy Ageing 2009, White Paper on Active Ageing in Andalusia: 2012), but de facto, they are dealt with in an ad hoc manner, without being fully aware of it, without having a transversal and holistic approach, not only economic, because spending on older people is an investment for the future.

The observed trend of living longer as a human species in harmony with the rest of living organisms and with environmental equity, reveals that we must learn to live better by breaking with obsolete paradigms on old age (entrepreneurship, sexuality, health, age, dependence, activity) and innovating with participatory and participative proposals from all social agents focused on people who live longer.

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CHAPTER 2

ON THE MARGINS OF INCLUSIVE GROWTH. THE CHALLENGE OF THE FEMINISATION OF POVERTY IN THE EUROPEAN UNION.

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ABSTRACT:

In this book on active ageing we want to add a crucial indicator which is gender in order to focus on one of the great challenges of the EU which combines sex and age in order to determine the conditions that limit or ensure that people face the mature stage in conditions of equality. We analyse the concept of the feminisation of poverty, which has a particular impact on both extremes of the age range. Thus, we refer to the most relevant EU resolutions regarding the vulnerability of its citizens and we analyse the main factors that affect poverty among older women.

Keywords: women, social policy, feminisation of poverty, European Union (Maximum 5 words)

1. WOMEN'S POVERTY, A PROBLEM ON A GLOBAL SCALE

Introducing gender as a tool for analysing public policies means going beyond the findings on the achievement of formal equality between women and men (Martín Barbera, 2016) to consider the practical needs and problems of women, and identify progress towards women's strategic needs.

Certainly, some individual variables such as the level of education, the situation in the labour market, or the type of family in which the subjects belong, help to understand the aetiology of poverty. But it is also necessary to address the impact of poverty in terms of the groups to which they belong, taking into account gender, age, social class or ethnicity and the institutional contexts that surround them (Gornick & Jäntti, 2010). The development of social policies and social protection systems within each country, the characteristics of the labour market and the level of gender inequality (Bárcena-Martín & Moro-Egido, 2013), explain the depth and extent of poverty gaps between different social groups.

As we have said, this complex fusion of variables and factors makes it necessary to look at the phenomenon of poverty from a gender perspective, insofar as sex functions, from our point of view, as a central variable in the construction of social exclusion and poverty. The study of social and cultural stereotypes and prejudices linked to gender should lead to a measurement of poverty levels using more precise indicators that do not hide, for example, the asymmetries between men and women in the distribution of resources within the household (Corsi, Botti & D'Ippoliti, 2016; Corsi, Botti & D'Ippoliti, 2016; Corsi, Botti & D'Ippoliti, 2016). D'Ippoliti, 2016) and the impact of divergences in the distribution of domestic and family care work on the levels and quality of women's presence in the labour market and in the field of political representation (La Barbera, 2016), determinants of the lower development of

citizenship rights for women. The feminisation of poverty is seen from this perspective as the result of gender-based structures and systems of inequality, which may occasionally be intersected by other vectors of discrimination, as noted above. In this regard, the Convention on the Elimination of All Forms of Discrimination against Women (United Nations General Assembly, 1979) expressed concern "that in situations of poverty women have minimal access to food, health, education, training, and employment opportunities, as well as to the satisfaction of other needs".

In the 1970s, the concept of the feminisation of poverty began to be used in the United States to refer to the deprivation associated with female-headed households, closely linked to the situation of single mothers. The concept of the feminisation of poverty was first used in 1978 by Diane Pearce in her work *The feminisation of poverty: Women, work, and welfare*, in which she highlights the fact that, within the framework of American social assistance, the economically disadvantaged had the face of a woman. From the 1980s onwards, the concept began to be used to look more closely at the situation of women in low-paid jobs, with little economic autonomy and who were caught up in the cycle of gender-based violence. Also from this decade onwards, feminisms from the South denounced the peculiar impact of poverty on women: its causes and consequences verify it as a universal phenomenon and the area constructed by the vectors development-poverty-gender will give a new meaning to the use of the term:

They identified a series of phenomena within poverty that specifically affected women and pointed out that the number of poor women was greater than that of men, that women's poverty was more acute than men's, and that there was a trend towards a more marked increase in female poverty, particularly related to the increase in female-headed households. To account for this set of phenomena, the concept of "feminisation of poverty" was used (ECLAC-UNIFEM, 2004:13).

The EIGE (2023), underlines the relevance of the projected gender perspective in the analysis of poverty, in that it

Gender gaps and inequalities between women and men are one of the main characteristics of social exclusion and poverty. This is explained by a number of interrelated factors, namely: gender pay and pension gaps, the burden of care and work-life balance, social exclusion and violence against women. Women suffer more than men from certain types of poverty. Women living alone, migrant women, elderly and disabled women are even more at risk.

According to these premises, the EIGE defines the feminisation of poverty as the "trend towards an increase in the incidence and prevalence of poverty among women compared to men as a result of structural discrimination that affects women's lives and is reflected in low salaries, pensions and social benefits" (EIGE, n.d.). Although for Gauthier (2002) and Song (2009), the growing incorporation of women into the labour market and improvements in welfare state programmes have favoured the reduction of the feminisation of poverty, the challenge remains enormous, as can be seen in the context of the European Union. In this scenario, the reflection on inequality of opportunities as the backbone of women's poverty will henceforth lead our proposal, linking the agenda of the fight against the feminisation of poverty within the Union to the situation of older women, a variable of special relevance in a Europe facing the challenge not only of active ageing, but also of ensuring that this is inclusive and promotes equality in the most advanced years of life.

2. THE POLICY FRAMEWORK: NOTES ON INITIATIVES TO PROMOTE GENDER EQUALITY AND THE FIGHT AGAINST POVERTY IN THE EUROPEAN UNION

2.1. The controversial commitment to equal opportunities for women and men

The development of the European Union's institutions, processes and policies have been permeated from the outset by attention to equal opportunities between women and men, shaping the narrative of the construction of the European project (Kantola, 2010). However, despite the efforts made, the gaps persist and are still very significant, and tackling them requires a more determined commitment to the implementation of the gender approach, while progress is still slow (European Commission, 2020:1-2).

In this context, approaching realistic policies requires addressing the different national realities that coexist within the European Union (Català and Nieto, 2018; Somarriba and Zarzosa, 2019) and the different meanings attributed to the concept of gender equality, in territories and political, social and cultural contexts that are sometimes frankly disparate (Verloo, 2007). Certainly, and within the community ideology, the application of the principle of equality has gone through different conceptions (Ruiloba-Núñez, 2019), culminating in the assumption of gender as a significant analytical category to explain the asymmetries between women and men in all areas of life (Lombardo, 2002:225).

The denunciation of the gaps between equality in law and the experiences of de facto discrimination bring to the surface the deep structural roots of inequality, made visible through the commitment to achieve a European social dimension, made explicit in the Treaties of Amsterdam (1997), Nice (2001) and Lisbon (2009). The Treaty of Amsterdam (1997) formulates a more demanding approach, as it calls for the removal of values that require great political involvement (Peto & Manners, 2006; Elomäki & Kantola, 2022). The incorporation of gender *mainstreaming* into institutional action within the Union, including development cooperation policy (Sanz, 2021), configures a framework that recognises the structural barriers that customarily hinder the advancement of symmetry between women and men, in response to the demands of the various world conferences on women, promoted by the United Nations between 1975 and 1995. Through the design of plans and strategies related to the promotion of women's participation in decision-making processes and the fight against sexist roles and stereotypes, gender analysis will be placed as the axis of coordinates of a new vision at the service of the effective promotion of equality. Gender mainstreaming complements the previous strategies, integrating the discourse on equal opportunities throughout the political decision-making cycle (Lirola and Rodríguez, 2002). To this end, the principle of gender intersectionality will be incorporated in order to address the sum of obstacles that certain groups of women suffer due to, for example, age, ethnicity, social class or disability (European Commission, 2006).

Thus, the promotion of equality in all areas and levels of life and the fight against all forms of violence against women will be made explicit, among other documents, in the Charter of Fundamental Rights of the EU (2000/2007), the Women's Charter (European Commission, 2010a) and the European Pact for Gender Equality (2011-2020); the European Institute for Gender Equality (EIGE) was created in 2010 as a body to monitor progress in equality.

In short, the EU's political regulation of gender equality must be seen in terms of the centrality of the discourse on economic growth, focused on improving the labour

market and on the construction of monetary and trade union, as the backbone of the identity of the Union's institutions (Peto & Manners, 2006). This soon made visible the gaps between de facto equality and de jure equality, as gender equality was not addressed from a holistic, comprehensive point of view. Perhaps the great challenge today is to fine-tune the channels of coordination and monitoring of EU gender policies at the level of individual member states. The different speeds, if not the resistance to the incorporation of gender *mainstreaming*, which is also closely linked to the EU's own enlargement process (Lombardo, 2002), determine the future of the promotion of equality between citizens within the Union and, therefore, the fight against the feminisation of poverty.

2.2. The impact of gender in tackling poverty

In response to the values of justice and human dignity (Gaisbauer, Schweiger & Sedmak, 2020), the European discourse on the promotion of gender equality is linked to the fight against social exclusion and poverty. Progress towards social cohesion requires the study and tackling of territorial imbalances and the discrimination of groups that structurally suffer from them. Thus, linked to the agenda of more sustainable and inclusive economic growth (Madanipour, Shucksmith & Talbot, 2015), in 2010 the promotion of the European social dimension gained particular strength with the proclamation of the European Year for Combating Poverty and Social Exclusion and the *European Platform against Poverty*, a flagship initiative of the *Europe 2020* document (European Commission, 2010b). Under these premises, the analysis of poverty within the Union has promoted numerous studies, reports and regulations, which focus eminently on the labour market integration of excluded groups, the advancement of social protection for all and for all, and equal access to education and health, with an attentive vision of gender inequality.

In this line, the *Charter of Fundamental Rights of the European Union* (European Parliament, Council of the European Union and European Commission, 2000) and, especially, the *European Pillar of Social Rights* (European Parliament, Council and Commission, 2017) and its Action Plan (2021), underline that a fair, inclusive and opportunity-enhancing Europe for all citizens must support the achievement of adequate social protection. Within this, the right to minimum income benefits, in the case of lack of sufficient resources, will be aimed at ensuring a dignified life throughout all stages of life. The *Reflection Paper on the Social Dimension of Europe* (European Commission, 2017) adds to these proposals, warning, on the other hand, of the great challenge posed by the persistence of gender gaps in all areas.

Over the last twenty years, the European Parliament has issued a series of resolutions focusing on the poverty suffered by European citizens. These documents, commissioned to the Parliament's Committee on Women's Rights and Gender Equality, are, in our view, emblematic diagnoses for understanding the evolution of the discourse on the fight against the feminisation of poverty in direct relation to the evolution of gender policies. Likewise, the selection of resolutions that we are proposing takes into account the situations arising from the economic, financial and health crises, which have particularly highlighted the resistance of structures to the real promotion of equal opportunities within the Union. Let us now take a closer look at each of these documents.

The European Parliament Resolution of 13 October 2005 on women and poverty in the European Union (2004/2217(INI)) opens an in-depth debate on the feminisation of poverty in Europe. Although the term is not yet specifically used, it highlights that women are more likely than men to fall into poverty, that it is more difficult for them

to escape from poverty and that they are more at risk of entering a situation of permanent economic destitution leading to social exclusion. Preventive action must therefore be a priority. This text highlights that, despite the launch of various EU strategies, for example in the Social Policy Agenda, the European Union has not yet effectively tackled the eradication of poverty among women.

It emphasises broad inclusion in the labour market as an essential means of combating inequality: it finds that having a job is not a decisive protective factor when traditional gender roles shape different opportunities in the labour market, and calls for the promotion of work-life balance and co-responsibility as a means of redressing imbalances. Women in employment continue to be paid less than men and although the pay gap has been narrowing since the implementation of Council Directive 75/117/EEC on equal pay for men and women, it was still 15% on average in 2003. In addition, they continued to hold the majority of lower quality jobs and part-time jobs (30% compared to 6.6% of men). Consequently, while two thirds of the European population over 65 were women, they also had lower pensions than men. The report justifies this difference by the greater presence of women in part-time work and the absence of unpaid productive and reproductive work in the calculation of pensions.

In 2010, the European Parliament Resolution of 8 March 2011 on the face of female poverty in the European Union (2010/2162(INI)) already used the expression feminisation of poverty to frame the effects of the economic crisis that hit Europe in 2008. This made the gender-differentiated incidence of poverty even more evident, as the austerity measures implemented had a particularly negative impact on women. The repercussions of the economic and financial crisis deepened the precariousness of women's employment, leaving them more exposed to dismissal and with less coverage in terms of social protection. Once again, it is clear that poverty among women is more related to the permanence of gender stereotypes, which create wage differences and obstacles to the reconciliation of work and family life, than to the new effects produced by the economic crisis.

The socio-economic context brought about by the economic crisis makes it clear that poverty increasingly has a woman's face, with a special incidence on the most vulnerable women, as we can see in the seven sections that articulate the reflection: those who have a disability, older women, women who lack education, single mothers, migrant women or women belonging to ethnic minorities, introducing the principle of gender intersectionality to explain their living conditions.

In this context, Member States are urged to mainstream the concept of gender equality in all employment-related policies and measures. The need to apply the indicators on women and poverty created by the Beijing Platform for Action, effective instruments to monitor the impact of social, economic and employment policies aimed at reducing poverty, is underlined. This entails the need to establish appropriate methods for assessing women's deprivation, looking at the specific gender-specific circumstances that cause and/or aggravate it.

The European Parliament resolution of 26 May 2016 on poverty and the gender perspective (2015/2228(INI)) notes that the previous recommendations have not had the desired effect and that the emergence of new poor people - those who have a job but are unable to make a decent living - continues to be formulated in women's terms. Eurostat data show a higher incidence of poverty among women: 64.6 million female citizens and 57.6 million male citizens were in a precarious situation, underlining, moreover, that poverty rates vary significantly from one state to another.

The gender gaps had remained unchanged since the first resolution to which we have referred. Specifically, with regard to the gender gap in pensions, member states are urged to eliminate differences and adjust pension systems to achieve equality between men and women at retirement age. Again, it is stressed that this is the result of the unequal presence in the field of employment, a product of the differentiated performance of roles, impacting on the asymmetrical level of income throughout the life cycle, as it is emphasised that this slows down the economic and social development of the Union. The need to achieve a work-life balance and a real and effective sharing of responsibilities is therefore stressed, involving men in this struggle.

For its part, the European Parliament resolution of 5 July 2022 on women's poverty in Europe (2021/2170(INI)), in a new context of crisis, this time in the health sector, highlights the fact that poverty continues to affect women more than men, with 22.9% of women being in poverty compared with 20.9% of men. Women have suffered sharply from the socio-economic decline brought about by COVID-19, and its impact has been even greater than that caused by the 2008 economic crisis: for example, the gender gap in pensions had increased to 29.4% by 2019. In this regard, the role of public services is highlighted as a key element in eradicating poverty among women and the formulation of a European strategy to combat poverty by 2030 is announced, with a specific objective to reduce the feminisation of poverty.

All the resolutions we have discussed highlight the role of the Member States in responding to these situations and the role of public services in the fight against female poverty, especially in the field of encouraging quality employment for all women and, in particular, for those in situations of special vulnerability, including older women. The feminisation of poverty is a phenomenon that affects the progress of society as a whole, and that working for the market is not always a barrier to poverty, given that low wages, precarious working conditions persist and the progressive dismantling of social security systems shows a worrying inertia. Obtaining a quality job is still seen as a prerequisite for women to gain economic independence, achieve job fulfilment, escape from situations of violence and achieve effective equality.

In order to end women's poverty, it is essential to go deeper into the elimination of gender roles and the promotion of the sharing of responsibilities within the family. At present, the European Union recognises the deficits in the incorporation of the gender perspective into the policy cycle, since truly integrated actions that address all the vectors that structure inequality have not yet been deployed. This requires interventions around two main axes: incorporating the intersectional gender approach into the design, implementation and evaluation of public policies, and intensifying efforts to research the phenomenon of the feminisation of poverty, taking into account a multidimensionality that includes, for example, differences in the use of time. Measuring its causes and consequences requires different calculation parameters, taking into account, above all, age, life expectancy or family patterns and the benefits they receive, while poverty continues to be measured in terms of family income without taking into account individual income and the distribution of resources in the household. In order to understand in depth the characteristics of poverty affecting women and men, it is necessary to focus on certain groups such as women over 65, single mothers, women with disabilities, women with low educational attainment, homeless women and migrant women. Factors associated with these life circumstances can increase the risk of poverty and exclusion or make it more difficult to escape from these vulnerable positions. Therefore, the European Institute for Gender Equality (EIGE) is tasked with the provision of data disaggregated intersectionality by gender, in order for each country to generate truly effective initiatives. In addition, member states

are required to focus on specific situations such as those arising from energy poverty, the digital divide, different levels of health and unwanted loneliness, which favour access, in short, to full social citizenship.

3. MAIN FACTORS AFFECTING THE FEMINISATION OF POVERTY AMONG OLDER WOMEN.

As we have seen, the impoverishment of women is a worrying and complex issue within the European Union. From an intersectional point of view, older European women citizens are particularly affected by the impact of poverty as a result of the sum of different factors that prevent them from achieving acceptable levels of quality of life. In contrast to the above political declarations, the multiple vulnerabilities they suffer expose them to a much greater risk of poverty and social exclusion, which require not only the decisive incorporation of the gender perspective to understand and address their situation, but also the planning and coverage of specific objectives and measures aimed at this sector of the population. As stated by the EIGE, the gender gap is even wider in old age than among the younger population, disadvantageing older women by a difference of five percentage points in 2017 (EIGE, 2020).

Moreover, tackling the ageing of the population and the deficits that this entails requires the promotion of the social participation of this huge and pluralistic group. However, in our view, active ageing policies, one of the flagship objectives of the EU institutions, obey a "simplistic approach", which focuses too much on strictly economic aspects.

"We are immersed in a debate about the capacity of states to maintain the incomes of the elderly, when in fact, when we talk about ageing, whether it is global, population ageing or the dignity of people, we must remember that the conversation involves countless aspects: we talk about pensions, but also about health, well-being and dependency; we talk about risks of exclusion, loneliness and energy poverty, connectivity, living conditions, mobility, leisure, consumption and savings, economic sciences, actuarial sciences, demography, law and ethics" (Fundación mutualidad abogacía/ Cátedra economía del envejecimiento, 2023:4).

In response to these premises, we reflect below on three basic vectors for constructing a broader debate on the feminisation of poverty in adulthood.

3.1. The reflection of labour gaps in access to adequate pensions and the impact of care work.

The financial situation of men is better in adulthood, a situation that can be observed in all EU countries (Fundación Mutualidad abogacía/ Cátedra Economía del envejecimiento, 2023). With an immediate effect on women's quality of life, the persistence of the wage gap, occupational segregation and the greater presence of women in part-time jobs, project into adulthood the lower receipt of pensions linked to the performance of paid work. In addition to the above circumstances, women tend to have lower paid jobs and contracts with less job security, which are key factors that negatively affect their pensions. Women continue to be more concentrated than men in professions within the service sector which, such as education, health and social services, reflect traditional gender roles. Within these, they tend to have lower salaries and in many EU countries women find it difficult to meet the retirement time requirements for a full pension due to career breaks, given the persistence of women's responsibility for family care tasks, as highlighted above.

Finally, care work hampers participation in the labour market and, qualitatively, their participation is also of lower quality: the dedication to care work throughout life is a potential source of present and future poverty for women. The disproportionate burden of unpaid care responsibilities that still falls overwhelmingly on women in EU countries, involving caring for children, the elderly and dependants within the family, affects their income and pension entitlements as a result of the cumulative effect of disadvantages throughout their working lives. Tackling the feminisation of poverty experienced by older women therefore requires policies that promote equal pay, reduce occupational segregation and facilitate work-life balance. For those who are already in retirement, it is necessary to guarantee adequate pensions based on the recognition and valuation of unpaid care work.

3.2. Differences in education and digital skills.

The persistence of gender gaps in education levels (Añón, 2020) challenges EU active ageing programmes. Fostering the learning capacity to make gender differences visible in adulthood throughout the lifespan, requiring the research that specifically incorporates a gender perspective in order to develop attractive programmes that meet the needs and interests of older women.

Asymmetries in levels of formal education are also reflected in the digital divide. The percentage of men who have at least completed secondary education is higher than that of women in almost all countries (Fundación mutualidad abogacía/ Cátedra economía del envejecimiento, 2023:88) and this generates difficulties in the access and use of digital devices by older women. The generational digital divide widens when we introduce the gender variable. Although the digital skills of Europe's older citizens are lower than those of the general population, reflecting their lesser access to training in this area, there are differences by gender, which is another vector of risk of social exclusion for older women within the European Union.

As summarised by Arias, Lirio, Alonso & Herranz (2018), the gender gap in computer use among European citizens is eight points in favour of men, also reflecting differences in the frequency of daily computer use and Internet access. In general, while the gender digital divide is striking across all EU countries, it is widest in Austria (20 percentage points difference), Spain (18 points) and Luxembourg (with a 17-point digital divide). Older men use computers more in Croatia, Austria and Malta, while women use computers more in Estonia and Finland, although the gender gap is smaller than in the previous countries. In terms of Internet activities, older women citizens focus on searching for information on health and social relations, interests which, moreover, reflect women's traditional areas of operation in offline life.

In short,

"European women have had and continue to have more difficulties in accessing the digital world (...) Therefore, discrimination is twofold, for being an older person and for being a woman. This digital inequality would imply greater difficulty in accessing a system of social, personal, work, leisure, social participation, training, etc., where the use of this digital technology is becoming increasingly essential" (Arias, Lirio, Alonso & Herranz, 2018:311).

3.3. Different levels of health, social relations and exposure to violence.

Differences in health are not only biological in nature, but also involve economic, political and cultural factors, as we have already mentioned. The impact of these variables on the different levels of well-being makes it essential to make visible the impact of gender on the health of European citizens, as recognised, for example, in the latest EU health programmes, which, however, still do not incorporate the gender perspective when it comes to the design and implementation of specific programmes.

According to the *European Indicator of Decent Quality of Life for Older People: Gender Considerations* (Fundación mutualidad abogacía/ Cátedra economía del envejecimiento, 2023:87), older European women citizens have better levels of health - mainly due to the consumption of healthier diets - and, as is well known, have a longer life expectancy in all EU countries, which also implies a higher prevalence of situations of dependency. These situations are amplified if we consider that more women live in rural environments where barriers to access to services in general and to health services in particular are increasingly evident, determining acceptable levels of quality of life. As underlined by EIGE (2020), gender stereotypes continue to play a role, especially in unequal access to preventive and curative health services.

Furthermore, although in general the levels of associationism and participation in voluntary activities remain very low among Europe's older citizens, the report shows a fairly high average level of satisfaction among older people with their personal relationships, although the fight against unwanted loneliness is another of the challenges facing the Union's policies.

The latter is related to the violence to which older women are exposed to a greater extent than men. The types and forms of violence vary in nature, ranging from intimate partner and family violence to institutional violence in the form of neglect and abandonment, building the prevalence of abuse of older women (Brownell and Lataillade, 2013).

4. BY WAY OF CONCLUSION

As we have seen, inefficiencies in gender policies continue to underpin the feminisation of poverty. Their persistence within the EU is a symptom of the unfinished struggle against the structures that underpin gender inequality across the EU as a whole. Compared to ten years ago, the gender gap in opportunities is still very wide and it is therefore not surprising that the poverty gaps experienced by Europe's female citizens persist.

A matrix aspect concerning the scope of both gender policies and the fight against poverty and social exclusion in general is the nature of the formulation of social policies. Although the European institutions play an important role in coordinating and financing actions and programmes, the development of measures in these areas is the responsibility of each member state, in accordance with a principle of subsidiarity that traces different speeds at the regional level. Marbán Gallego and Rodríguez Cabrero (2011) stress that the debate on the feminisation of poverty and social inclusion is located in the field of the EU's *soft policies*, since, although we find recommendations, these do not have a legal link that would allow progress towards a common social policy, as can also be seen in the obstacles to the harmonisation of health, social security and social services systems. In the words of Ferrera and Sacchi (2009), the construction of a social Europe is currently more linked to the mere declaration of principles than to the achievement of new realities.

Various EU reports and institutional declarations reflect the reproduction of gender asymmetries, determining the still deficient presence and power of women in all spheres in which social relations are developed. The main factors that place women at greater risk of poverty are not only unequal access to employment, but also the conditions in which they enter and remain in the labour market, where precarious work, career sacrifices in favour of family care and wage and pension gaps are determining factors. Thus, although the unemployment rate of women in the EU is lower than that of men, the at-risk-of-poverty rate is still higher than that of men (Kiaušienė, 2016). This is compounded, in a feedback loop, by deficiencies in the sharing of tasks and resources within the household, difficulties in access to property, differences in educational attainment, and differences in the level of education.

As we have argued, it is necessary to develop analyses that incorporate methodologies based more strongly on gender, which allow us to identify the differentiated impacts that poverty has on the lives of women and men, especially older women. For Fukuda-Parr (2010), the measurement of poverty among women is unrealistic: it focuses solely on household income, ignoring the internal distribution of resources within the household. Other factors such as autonomy, opportunities and spending decisions are not taken into account. There is also a pressing need to address the impact of other variables related to access to health and education, women's leading role in care, and situations where gender discrimination is linked to other exclusions.

Therefore, understanding how inequality continues to reproduce itself and, consequently, the higher incidence of poverty among women, especially visible among those who have devoted part of their lives to caring for others and who do not obtain the recognition that would guarantee them a good quality of life in old age, is an issue that requires the urgent attention of the European institutions. The success or failure of a European integration process founded on "the indivisible and universal values of human dignity, freedom, equality and solidarity" (European Parliament, Council of the European Union and European Commission, 2000/2007), and which makes the EU a beacon of these values to the rest of the world (Peto & Manners, 2006), depends to a large extent on it.

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CHAPTER 3

INCLUSIVE TOURISM AND ACCESSIBLE TOURISM: ACTIVE AGEING AND TRAINING. A CASE STUDY PRESENTATION

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ABSTRACT:

As a result of changes in society and the need to develop active ageing, due to its socio-economic implications, this chapter sets out the process of integrating inclusive tourism and accessible tourism competencies in the bachelor's degree in Tourism. Hence, the influence of the national and international regulatory framework that applies to many areas and social aspects is highlighted. One example is the university tourism policy of the case presented, which makes it possible in countries such as Spain to directly influence the tourism economy and society, both their own and that of the countries which they collaborate with, thanks to EU funding, which is clearly committed to social tourism policy issues within the framework of the concept of sustainable development and regenerative tourism.

Keywords: Inclusive tourism, accessible tourism, active ageing, training

1. INTRODUCTION

Population ageing is a reality due to declining fertility rates and increasing life expectancy¹. This phenomenon is occurring in many countries and the trend, which first emerged in developed countries, is observed in virtually all developing countries today (UN, 2022).

The United Nations (UN, 2022a) predicts that the rate of population ageing in the 21st century will exceed that of the previous century. The number of people aged 60 and over has tripled since 1950, and by 2050 will reach 2.1 billion, representing almost a quarter of the world's population. The agency also predicts that populations that started ageing later will have less time to adapt to its implications.

The tourism industry of the future will welcome an increasing number of older tourists (Otoo & Kim, 2020). Inclusion and accessibility are established as key links, as older people and people with temporary disabilities or permanently restricted abilities are their direct beneficiaries. Furthermore, we should not forget that disability is often directly related to older people and that, with increasing age, disability or restricted abilities also gradually increase (Burnett, 1996).

In addition, there are public health implications for the physical and mental health of older tourists, which is recognised as an important issue of well-being in old age (Qiao et al., 2022). This change process highlights the urgency of developing policies and strategies to meet their changing needs (Li & Chan, 2021).

By virtue of this transformation, it is required from the teaching work to promote knowledge, sensitivity, responsibility, and sustainability in the curricula related particularly to training in tourism, because, in addition to health and education, tourism is also a right recognised by the Convention of Persons with Disabilities and by the World Tourism Organisation (UNWTO). In its code of ethics, the UNWTO (2020) states that everyone has the

¹ In 2020, the growth rate of the global population fell below 1 per cent per year for the first time since 1950 and further reductions in mortality are expected because of longevity (UN, 2022).

right to enjoy everything that people without disabilities enjoy.

In order to respond to this transformation of society and facilitate active ageing, this chapter aims to show how the Faculty of Tourism of the University of Malaga (Spain) works in favour of inclusive and accessible tourism and its influence on the University of Holguín (Cuba).

This chapter includes an introduction, which shows the relevance of inclusive and accessible tourism for older people, as well as its implications for the socio-economic profitability that can be generated through tourism. After a conceptualisation of inclusive tourism and accessible tourism, the theoretical framework with the policies that frame the guidelines in this field at local, regional, national, European, and international levels is presented. Subsequently, the lines of action developed by the Faculty of Tourism of the University of Malaga and its support in the Department of Tourism of the Faculty of Economic Sciences of the University of Holguín are shown. Finally, a series of conclusions and future lines of action in this field are presented.

2. THEORETICAL FRAMEWORK

In this section, a preliminary conceptualisation is carried out to accommodate the international, European, national, regional and local regulatory framework presented.

1. Conceptual framework

This chapter is based on two fundamental concepts that need to be clarified in order to contextualise it: inclusive tourism and accessible tourism.

- Inclusive tourism: it is about recognising that many people have been excluded by tourism in the past and finding ways to overcome this so that more people can benefit from tourism (Craven, 2016). Implicit in this concept is (Scheyvens & Biddulph, 2018): overcoming barriers for disadvantaged groups to access tourism as producers or consumers; facilitating representations of self by those who are marginalised or oppressed; challenging dominant power relations; broadening the range of people who contribute to decision-making about tourism development; providing opportunities for new places to be on the tourism map; and, fostering learning, exchange and mutually beneficial relationships that promote understanding and respect between residents and tourists.
- Accessible tourism: This expression derives from accessibility in terms of universality, which lies in facilitating the use of products and services for all users, with their participation in the design and evaluation process (Marcos and González, 2003; Guerrero, 2018; Tite et al., 2021). Thus, tourism accessibility refers to the quality of a service or facility that enables its use and enjoyment by any person practising tourism, regardless of their physical, sensory, mental or cognitive capacity (Jurado-Almonte, 2014).

Consequently, both inclusive tourism and accessible tourism are social rights of the first magnitude. A fundamental right that is intimately linked to human development, i.e., it is indispensable for the full development of human dignity, and must be available to all citizens, without excluding any population group (Soler et al., 2018). Therefore, the undeniable right of every person to actively participate in tourism activities, without their physical, cognitive or psychological limitations constituting a barrier, is out of the question; being a challenge for tourism destinations and institutions, but also a competitive opportunity for an economic and social nature as highlighted in the introduction.

2. Regulatory framework

The group referred to, i.e., the excluded tourist or the tourist with disabilities and/or special needs, is that segment of the population that due to temporary circumstances (pregnancy, cast on a limb, economic...) or permanent circumstances (ageing, physical or sensory disability...) find themselves in a situation that requires special attention adapted to the new needs they present.

2.2.1 International: Global

The International Convention on the Rights of Persons with Disabilities was adopted on 13 December 2006. The elderly tourism segment, which had not been very relevant in the past, is

becoming increasingly important and has been established as a priority in policy lines of action (Alén et al., 2012).

As a legal instrument, it has had important consequences for persons with disabilities, the main ones being the visibility of this group of citizens within the United Nations human rights protection system, the irreversible assumption of the phenomenon of disability as a human rights issue and the availability of a binding legal tool to enforce the rights of these persons.

The 2030 Agenda includes equal opportunities among the Sustainable Development Goals; and sustainability includes other relevant aspects, including social elements, which is why tourism companies must be socially responsible and must guarantee tourism quality, smart tourism destinations, which include governance, technology, innovation, sustainability and accessibility (González, 2022).

2.2.2 International: European Union

In this respect, the European Union (EU) member states have almost full autonomy in terms of tourism policy. On this basis, it should be noted that there is no horizontal tourism policy, unlike other European policies. However, there are specific regulated aspects covering the market of tour operators operating in this territory, including consumer protection issues. Or topics such as tourism events and related tourism services (Directive, 2015).

In addition to the above, there are European funds and bodies working for tourism development, which meets the new needs of society, such as:

- The European Institute for Inclusive Tourism, which, through the European Regional Development Fund, improves the competitiveness of SMEs. It also launched an International Digital Marketing Plan to improve online positioning in foreign markets.
- The European Network for Accessible Tourism (ENAT). This is an international association aimed at working for companies and organisations that wish to be pioneers in the study, promotion and practice of accessible tourism.

2.2.3 National: Spain

The International Convention on the Rights of Persons with Disabilities and its Optional Protocol were signed and ratified at the national level, so since 3 May 2008, this international body of law has been fully part of the Spanish legal system.

Specifically, its Preamble specifies that disability is an evolving concept that is fundamentally related to the interaction between people with impairments and barriers, which are not only physical but also attitudinal, and which hinder or prevent full and effective participation in society, on an equal footing with others. It also states that accessibility and non-exclusion are an indispensable condition for considering the concept of sustainability (UN, 2006).

In addition, Royal Legislative Decree 1/2013, of 29 November, approving the Consolidated Text of the General Law on the Rights of Persons with Disabilities and their Social Inclusion, is in force. The text is the result of a recasting and regularisation in order to clarify and harmonise the previous laws and the necessary regulatory adaptation to the aforementioned Convention.

On the other hand, as Spain is a benchmark country in terms of tourism, it is undeniable that the UNE standards (a Spanish Standard) have played a leading role in laying the foundations and evolving in accordance with the needs of the system. These include UNE EN 63080 (2017 and ratified in 2018) on Accessibility terms and definitions, UNE 41531 (2018) entitled Accessibility of immovable cultural heritage and UNE 17161 (2020) entitled Design for all people: accessibility through a design approach for all people in products, goods and services.

The UNE-EN 17161 (2020) standard takes up the Design for all people approach which, fundamentally, considers human diversity to broaden the range of users, favouring an inclusive and non-discriminatory mentality. It also seeks to promote a culture that gives priority to people and takes up the concept of accessibility of standard 41531 (2018) and incorporates the element of technology. It also argues that this design for all can maximise the diversity of potential users and can therefore benefit users and organisations.

On the other hand, the UNE 178503 (2022) standards on Smart Tourist Destinations: semantics applied to tourism introduces the concept of accessible tourist destination as the set of products and services associated with a specific geographical and socio-cultural space, which aim to allow, facilitate and promote the use of the tourist attractions of that place and, therefore, accessible and inclusive tourism is that which has universal accessibility and can be used and enjoyed by any person, regardless of skills, abilities or needs. It also considers that it should enable the person to use and enjoy it independently, without the need to ask for help from a third person.

Along these lines, Spain is working with national funds and organisations in favour of inclusive tourism and accessible tourism, such as:

- The National Organisation for the Blind Foundation (ONCE) for the Cooperation and Social Inclusion of People with Disabilities, to improve the living conditions of other groups with disabilities, through employment inclusion and training programmes. As well as the dissemination of the concept of universal accessibility, with the creation of globally accessible environments, products and services.
- The Spanish Confederation of People with Physical and Organic Disabilities (COCEMFE) aims to achieve an inclusive society that guarantees the full exercise of the rights of people with physical and organic disabilities. It coordinates, represents and promotes the associative movement of people with physical and organic disabilities in the country. This body is made up of 92 state, regional and provincial entities, representing more than two and a half million people with disabilities and bringing together more than 1,600 associations.
- The State Representative Platform for People with Physical Disabilities (PREDIF) represents and promotes actions in favour of almost two and a half million people with disabilities. It promotes equal opportunities and the improvement of the quality of life of severely affected people with disabilities.
- The Institute for the Elderly and Social Services (IMSERSO), which has created a system of protection for dependent persons and develops policies and programmes related to the active ageing of the population. It is responsible for the management of social services complementary to the Spanish Social Security System and for the management of plans, programmes and services for the elderly and dependent persons at the state level.
- The Observatory of Accessibility and independent living of inclusive tourism (COCEMFE) highlights the need of accessibility, the use of assistive technologies and existing resources for personal autonomy, from a rights-based approach, to promote the whole exercise of the freedoms of people with physical and organic disabilities and improve their quality of life.

2.2.4 Autonomous: Andalusia

Within the scope of the Autonomous Community of Andalusia, Law 4/2017, of 25 September, on the Rights and Care of Persons with Disabilities, stands out. This takes on a special relevance, since tourist activity has the character of autonomous competence, as stated in article 71 of Organic Law 2/2007, of 19 March, on the reform of the Statute of Autonomy for Andalusia.

The Autonomous Community has exclusive competence in matters of tourism, which includes, in any case: the organisation and planning of the tourism sector; the regulation and classification of tourism businesses and establishments; and, the management of the network of tourism establishments owned by the Junta, as well as coordination with the administrative bodies of Paradores de Turismo de España; internal and external promotion; the regulation of the specific rights and duties of users and providers of tourism services; tourism training and the establishment of criteria, the regulation of conditions and the execution and control of public lines of aid and promotion of tourism.

In addition, some specific regulations that regulate some related aspects should be mentioned, such as: Royal Legislative Decree 7/2015; Decree 293/2009; Order VIV/561/2010;

Royal Decree 173/2010; and Royal Decree 1544/2007.

These regulations specifically address the issue of accessibility and set out the requirements for accommodation establishments. They also indicate the characteristics of public and private spaces, accesses, toilets, parking areas, beaches and natural spaces.

2.2.4 Provincial: Malaga

With reference to the municipal sphere, the city of Malaga has a Regulatory Ordinance on Accessibility of the Municipality, which proposes the establishment of the basic rules and criteria aimed at facilitating accessibility and use of the goods and services of society for people affected by any type of organic, permanent or circumstantial disability, avoiding or eliminating physical, sensory or social barriers and obstacles that prevent or hinder their normal development. This Ordinance defines the group that would include people with limitations, mobility or reduced communication and sets out what is meant by accessibility. In this respect, it proposes a three-level model: accessible, practicable and convertible.

On the other hand, in 2023, the city of Malaga published its Malaga Accessible Tourism Plan, which proposes a set of useful tools to act as a lever for the development of accessibility, designed from the analysis of the situation and from reflection, with the aim of guaranteeing the future of such an important industry for the city and also provides the necessary tools to strengthen the area, deepening and giving a framework to the measures implemented in recent years, with a focus on the Smart Tourism Destination Project and its Accessibility Axis.

3. FACULTY OF TOURISM AT THE UNIVERSITY OF MALAGA AND BRANCHES AT THE UNIVERSITY OF HOLGUÍN

1. University of Malaga

University policies must be framed within the regulatory framework presented, because of changes in society. The University of Malaga, as a public institution, works to ensure that the contents offered through its corporate website are accessible to all citizens, regardless of whether they have a visual, hearing or motor disability. Likewise, accessibility is based on technological criteria, and its homepage, as well as its first levels of navigation, comply with current web accessibility regulations.

The Institution also has an Office of Attention to Diversity aimed at orienting and attending to the university community with functional diversity and/or learning difficulties.

In the same way that the University of Malaga attends to the educational needs of its students with disabilities, it transmits and trains them in this sense, recognising the values of the person and their right to higher education and training in tourism.

3.1.1 Faculty of Tourism

In this line, to define the minimum common learning, the Spanish Conference of Deans (CEDTUR) approved on 2 February 2023 the Guidelines for the Design and Modification of the bachelor's degree in Tourism in Spain, in order to implement it in the following academic year.

The Board of Trustees initially drew up a set of sixteen learning areas (which ended up grouped into thirteen) disconnected from the areas of knowledge, which have been the starting point for generating the proposals made by the dean's offices of the different faculties.

Based on these proposals and after the work of analysis and synthesis of the committees and the CEDTUR assembly, a series of descriptors have been defined (which could be knowledge, competencies, learning outcomes or a combination of these) that express in an open but comprehensible way what the tourism graduate student should know and know how to do.

The descriptors have different levels of concreteness, so it is not assumed that they should be translated into equivalent units of student effort. What is important is that these descriptors are developed (to a greater or lesser extent) in all tourism degrees.

To assign a relative weight or importance to the knowledge, it was decided to propose a set of subjects in which all the descriptors that had been previously proposed could be integrated without much effort. Two blocks of issues have been derived from the grouping of the

descriptors. The names under which these subjects have been incorporated into the document are descriptive rather than normative. Therefore, these names do not necessarily have to be the same as those of the subjects proposed in the redesign of the degree. Moreover, each of the proposed subjects may correspond to more than one in the final design and would probably be a good guide to complete the compulsory (or even optional) part of the degree offered by each university. Some of the descriptors can also be included in the compulsory subjects of each university.

Therefore, the core of the document consists of a series of descriptors and a group of subjects that future tourism curricula should contain and that would materialise the 50% of common learning of university graduates in tourism throughout Spain. Of the descriptors, three are directly related to inclusive tourism and accessible tourism (almost a quarter of the total):

- 2. Tourism and society: Social change, gender equality, diversity and inclusion and tourism.
- 9. Management and operations of tourism companies: Quality and standardisation in tourism. Accessibility.
- 13. Tourist destinations and territorial development: Quality and standardisation in tourist destinations. Accessibility.

The central idea of these guidelines is, as agreed in the CEDTUR assemblies, to establish a proposal for a common set of content and other learning outcomes that tourism graduates should acquire, regardless of the faculty or school where they have studied.

It was agreed that these minimum and common contents would comprise 50% of the credits taken by the student (not of those offered by the University), excluding internships and final degree projects, leaving a very wide margin for each faculty or school to adapt the tourism degree to its particularities, to its need to differentiate itself or to its interest in specialising in one or several tourism subjects or sub-sectors.

It should be emphasised that these guidelines refer only and exclusively to the minimum common contents. This is what any graduate student in tourism studying in Spain should know and which should be understood as the central body of the studies. Therefore, the document does not go into detail about specific tools or processes or more specialised content, whether of the subjects or a specific segment or type of tourism. For this reason, the proposal contained in the document is one of the broad and not very detailed references, but it clearly indicates what they refer to.

This training framework of Spanish universities will mark, through their faculties or schools offering studies in tourism, the future professionals of the tourism sector. As a result of the acquisition of these competencies, they will learn about, be aware of and implement actions aimed at inclusive and accessible tourism, which will contribute to active ageing.

3.1.2 European funds and activities carried out by both Tourism Faculties

In 2017, the Ibero-American Postgraduate University Association (AUIP) awarded a scholarship to a lecturer from the Department of Tourism of the Faculty of Economics of the University of Holguín to carry out research at the Faculty of Tourism of the University of Malaga. Her contacts with a lecturer from the Faculty of Tourism at the University of Malaga were the beginning of the first collaborative project.

The project "Sustainable Tourism Management in Holguín Destination (GeSTur)" was approved and funded by the European Union in 2018, through the ERASMUS K107 programme. This international collaboration project facilitated stays and meetings of professors and managers from both universities to learn about sustainable international trends in tourism management. Subsequently, this project was renewed annually and became part of the current ERASMUS K171 programme.

The main results obtained from this collaboration include raising awareness among the university community and society in general of the need to protect tourism resources and develop sustainable tourism; making the commitment to sustainable tourism and Corporate Social Responsibility visible in the academic life of both universities; and the exchange of good

practices between the two universities.

The direct impacts of this project collaboration include the incorporation of elements of the sustainable tourism product design model, bibliographic support and access to high quality scientific information, an increase in publications, the incorporation of new research topics and the strengthening of methodological work.

Furthermore, in 2019, the preparation and teaching of the optional subject "Tourism Resources and Natural Heritage in Tourism Organisations" was strengthened as a permanent pillar of teaching management by including interdisciplinarity in the various organisational forms of teaching.

In 2020, the project's teachers worked on the preparation of the subject "Interpretation of natural heritage", which was taught in 2021 in the new short cycle offer of the Higher Intermediate Technician in Tourist Assistance.

And as of May 2022, the Student Science Group "Tourism and Ataxia" was created in the Department of Tourism of the UHo with professors and students in the third year of the bachelor's degree in Tourism.

In this way, the projects' actions contributed to strengthening the relationship between different disciplines and between subjects, enabling the updating and enrichment of the teachers' knowledge system and their lines of research. In general terms, greater integration of contents has been achieved, thus fulfilling the objective of educating teachers in the discipline through the exchange, and the commitment to advance towards a better contribution to sustainable tourism education was strengthened. Collaborations between the teaching staff of these two institutions have a great future projection, such as joint participation in the master's degree "Tourism Management" or the implementation of actions to achieve double doctoral degrees and a greater number of post-doctoral stays.

3.1.3 University of Holguín

Cuba's social economic model towards 2030 aims to improve city tourism and sun and beach tourism through diversification, with emphasis on cultural, historical and health tourism, in response to the requirements of different areas and markets, and its contribution to strengthening the internal integration of the economy and the conservation and protection of natural resources and the environment (Ministry of Economy and Planning, 2019).

Cuba strives to offer visitors a renewed, diversified, peaceful and accessible tourist destination, recognised in the guiding policies established for tourism activity. Thus, within the framework of the 2020 International Conference on Accessible Tourism, the Cuban Network of Accessible Tourism was created to encourage the inclusion of people with special needs in different forms of tourism. An example of this was the signing of collaboration agreements between ECOTUR, the Cuban Association of Persons with Physical and Motor Disabilities (ACLIFIM), the National Association of the Deaf of Cuba (ANSOC) and the National Association of the Blind of Cuba (ANCI). At the same time, work is being done to eliminate physical barriers and to reach a higher status in terms of the elimination of attitudinal barriers (Echevarría, 2020).

In its recent report "The aging of the population. Cuba and its territories" (2023), the National Office of Statistics and Information (ONEI) argues that it is precisely the ageing of its population that is the main demographic challenge for Cuba. Today, the number of people aged 60 and over in Cuba is 2,478,087. The latest population projection made by ONEI estimates that by the year 2050, the population of older persons will reach 3,343,520 people, which would represent an ageing rate of 35.9%. At the end of March 2023, Cuba's preliminary population was 11,082,964, and the trend is downward due to low fertility, the negative balance between birth and death rates and the external migratory balance (Fariña and Carmona, 2023).

In relation to tourism and older people, there is a contradiction between promoting, developing and positioning Cuba as one of the most important accessible and inclusive destinations in the Caribbean and the objective and subjective limitations that slow it down. Accordingly, the Department of Tourism at the University of Holguín is working to strengthen the management of inclusive and accessible tourism, not only through teaching, but also through research, in response to the question of how to make tourism processes more inclusive,

accessible and of greater social effect on peculiarities such as disabilities in the elderly.

3.1.4 Department of Tourism of the Faculty of Economic Sciences

The faculty of the Department of Tourism of the Faculty of Economic Sciences has experience in teaching work for the elderly since the postgraduate activity of the University of Holguín developed in the first decade of the 21st century, contributing to the development of important actions between companies, educational institutions and representatives of the elderly, strengthening their active role in society and demonstrating the importance of their participation in the search for solutions to local problems. Since then, research projects have been carried out which began in the Department of Attention to Universalised Processes (DAPU), and which have been strengthened as part of the operation of the Chair of Older Adults at the university. The previous experience currently allows the Department of Tourism to work towards active ageing in tourism processes, which will be detailed below.

In the Department of Tourism of the University of Holguín, research on accessible tourism was opened in 2019, when the management of accessible tourism in recreational tourist complexes in Ecuador was investigated, research carried out through the master's degree in Tourism Management. In addition, the problem bank of tourism entities in Holguín did not reflect any shortcomings related to the management of inclusive, accessible tourism or tourism for the elderly. From that moment on, a study on the subject began at undergraduate and postgraduate level by several professors and students, and the first scientific results were achieved in 2020.

Based on the statements of Tite et al. (2021) and by going deeper into the theoretical, methodological and practical references on the management of inclusive tourism, strategic actions in the most relevant dimensions, human, legal, technological and relational, were formed in order to solve the problems related to training in such a sensitive and important subject as the management of accessible and inclusive tourism. The actions are shown in Table 1.

Table 1. Strategic actions for training in inclusive and accessible tourism management

DIMENSION	ACTION	RESPONSIBLE	PARTICIPANTS	COMPLIANCE
Human	Managing knowledge about inclusion and accessibility in tourism	Uho Tourism Dept.	Tourism Observatory from Holguín Mintur, Department of Tourism Uho, CCT	Systematically
	Take advantage of mobilities in the framework of the ERASMUS project signed until 2027 to update scientific information on inclusive and accessible tourism management.	Uho Tourism Dept.	Department of Tourism Uho, Faculty of Tourism UMA	According to the ICM mobilities programme
	Teaching the optional subject inclusive tourism management.	Uho Tourism Dept.	Senior Lecturer, teachers, students	According to teacher chart
Legal	Incorporate protocol for the delivery of updated legislation on accessible and inclusive tourism.	Legal Advisor MINTUR Holguín	Director of the Department of Tourism	Immediate
	Train teachers on Cuban regulations related to inclusion and accessibility and their use in the built environment.	Senior Lecturer	Teachers	According to the Methodological Work Plan of the Tourism Dept.

DIMENSION	ACTION	RESPONSIBLE	PARTICIPANTS	COMPLIANCE
	Conduct undergraduate and postgraduate research on the application of inclusion and accessibility in tourism.	Senior Lecturer	Teachers, students	According to Science and Technology Plan
Technological	Manage technology transfer project for research on tourism management for customers with disabilities.	Uho Tourism Dept.	Teachers and researchers	Calls for international projects
	Design mobile applications with accessible tourism products.	Faculty of Mathematical Informatics Uho, Faculty of Economics	Teachers and researchers, students	Second semester 2024
	Design holiday programme for people with disabilities	Uho Tourism Dept.	Department of Tourism Uho Mintur, Travel Agencies, Tour Operators	Second semester 2024
	Designing a tourist guide for people with disabilities	Uho Tourism Dept.	Department of Tourism Uho Mintur, Travel Agencies, Tour Operators	Second semester 2024
	Design new tourism products for people with disabilities.	Uho Tourism Dept.	Department of Tourism Uho Mintur, Travel Agencies, Tour Operators	Timely
Relational	To deepen the scientific and professional relationship on accessible tourism management with foreign specialists.	Uho Tourism Dept.	Teachers and researchers	Systematically

In 2023, in the framework of an AUIP post-doctoral research stay, a professor from the Uho shared the classes of the Aula de Mayores and obtained information from the Accessible Tourism Observatory to detect good practices related to inclusive and accessible tourism in Europe, Spain and Andalusia, in order to subsequently transfer them to her university.

This has made it possible to design an optional subject for the bachelor's degree in Tourism entitled "Inclusive Tourism Management", which integrates important aspects such as tourism for the elderly and how to adapt tourism processes to the disabilities that result from ageing. The subject will be taught by team teaching to showcase the perspective and results from the diversity of experiences of the teaching staff.

In short, a path of increasingly solid exchange is opening between the two institutions, allowing for a greater number of ramifications of experiences that are of relevance, as they show a greater commitment to achieving social tourism with ascending benefits for a segment that is growing more and more, that of the elderly.

Acknowledgements

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4. CONCLUSIONS

Just as the value of tourism has been included in studies on active ageing (UNWTO, 2020), tourism training needs to include inclusive tourism and accessible tourism to cater to a new reality.

This chapter shows the process of inclusion of inclusive tourism and accessible tourism because of a change in society and the need to develop active ageing, due to its socio-economic implications. Hence, the influence of the previous regulatory framework that applies to many areas and social aspects is highlighted. One example is the university tourism policy, which makes it possible in countries such as Spain to have a direct influence on the tourism economy and on society, both its own and that of the countries with which it collaborates thanks to EU funding.

Indeed, social tourism policy issues, especially inclusive tourism and accessible tourism, have to be based on the framework of the concept of sustainable development (Scheyvens & Biddulph, 2018; Panasiuk, 2020; Panasiuk & Wszendybył-Skulska, 2021) and regenerative tourism (Bellato & Cheer, 2021; Ong et al., 2022). Especially as tourism is nowadays conceived as a globalised and holistic activity. Therefore, collaboration at all levels (public-private, private-private, and public-public) is of vital importance, as well as the need to build bridges between research, industry and the community (Gillovic & McIntosh, 2020).

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CHAPTER 4

EXPERIENCES OF MEDIA AND DIGITAL LITERACY IN THE SENIOR UNIVERSITY AT THE UNIVERSITY OF MÁLAGA

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ABSTRACT:

In this paper an analysis of the academic programme of the Aula de Mayores +55 of the University of Malaga during the academic year 2022/23 is carried out with the aim of analysing the training offer on media and digital literacy. The research methodology is based on content analysis - examining the competences, contents, methodologies and resources used - and case study, through the analysis of two specific training actions: the *Radio and podcast workshop "The voice of life"* and the *Digital photography and video workshop*. The main conclusions can be highlighted are the variety of the offer, the possibility of incorporating new training actions for media and digital literacy, and the use of methodologies that promote student participation and learning through practice.

Keywords: University Programmes for Seniors, Aula de Mayores +55, Media and Digital Literacy, Lifelong Learning, Educational Programme

1. INTRODUCTION

One of the phenomena that define contemporary society is the longevity revolution, defined as a global fact that responds to a significant increase in human life expectancy and associated changes in the demographic structure of populations (Alexander Kalache, 2015). In demographic terms, it evidences that the world's population is ageing. According to the World Population Prospects 2019: Highlights report (UN, 2019), in the world, one in six people will be over the age of 65 by 2050. For the above-mentioned date, the number of people aged 80 and over will triple reaching 426 million octogenarians.

In Spain, the population pyramid follows a similar evolution: the number of older people is increasing and the representation of octogenarians is growing, reaching 6% of the entire population (Pérez Díaz, Ramiro, Aceituno, Muñoz Díaz, Bueno, Ruiz-Santacruz, Fernández Morales, Castillo Belmonte, De las Obras-Loscertales and Villuendas, 2022). The presence of people who have reached the age of 100 or more is also extended. In Spain, there are currently 18,020 registered centenarians. What factors have influenced the longevity of the population? In European countries such as Spain, a good public health and pension system has contributed to gain years and well-being to life. Active and healthy ageing policies have also contributed to the increase in longevity.

The United Nations, in the Report of the Second World Assembly on Ageing (2002) defined the term active ageing as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age". The term active refers to participation in social, economic, cultural, civic and spiritual issues, not only to being physically and economically active (IMSERSO, 2011). Healthy ageing also refers to strategies whose main objectives are to promote and maintain the functional capacity that enables people's well-being in old age (WHO, 2015). Functional capacity is a combination of all the physical and mental capacities that a person has and the environment that forms the context of life (relationships,

attitudes, values, health and social policies, etc.).

As can be seen, healthy ageing and active ageing are two interrelated concepts, which are mutually reinforcing. Active ageing contributes to healthy ageing by maintaining physical, mental and social vitality, while healthy ageing provides the basis for active and meaningful participation in activities during old age.

There is much scientific evidence that indicates that a retirement period actively linked to sport practice, education, social participation and emotional well-being slows down functional ageing (Minagawa and Saito, 2015). Numerous resources and programmes have been created to promote active ageing, both in urban and rural areas (it should be noted that rural environments have a greater lack of resources to meet the needs of older people).

Seniour citizens can go to active participation centres or associations, spaces that offer services and activities, such as learning Information and Communication Technologies, social skills workshops, arts, sports programmes and social and recreational events. In these spaces older people can socialise, learn new skills and participate in activities that promote active ageing. On the other hand, there are volunteer organisations that embrace older people who dedicate their time to community activities. Voluntary work carried out by older people gives satisfaction to the volunteer and helps, above all, socially sensitive and vulnerable groups.

Another key to active and healthy ageing is lifelong learning. In this regard, universities for seniors offer a wide range of specialised programmes and courses to meet the interests of older students. These programmes, as you will see in this paper, enable older people to continue learning, acquire new skills and remain socially and mentally active.

In this sense, the Council of Europe conceives lifelong learning as “all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective”, ranging from pre-school to post-retirement and including formal, non-formal and informal learning (Official Journal of the European Communities, 2002:2). The Porto Social Summit of the Heads of State or Government of the European Union in 2021 set the target that by 2030 " at least 60% of adults attending training courses " annually (European Council, 2021).

In Spain, the Council of Universities, in accordance with the postulates of the European Union, understands lifelong learning to mean:

“all those forms of education such as training for the use of leisure and free time, the improvement of quality of life, social participation, the improvement of employability, training for the elderly in its different modalities and types, etc. In other words, any training that serves for the improvement of people and is useful for society.” (Council of Universities, 2010:13)

The University Programmes for Seniors of Spanish universities are integrated, in accordance with the provisions of the Council of Universities, within the educational offer of lifelong learning. Current state university legislation regulates this training, although it does not refer directly to these programmes. In the case of Andalusia, the autonomous community in which the University of Malaga is located, the organisation by the universities of training activities for the elderly, regardless of their level of education -counting for it with the support of the Autonomous Administration- has been regulated since 1999 by Law 6/1999, of 7 July, on the care and protection of the elderly.

One of the keys to these programmes is precisely the fact that people can enrol, regardless of their level of studies, which makes it possible for older people who always wanted to go to university, but due to personal circumstances could not, to now live this experience, together with others who were able to attend, but want to repeat it.

At the University of Malaga, the Aula de Mayores +55 started its activity in 1995, being, together with the University of Granada, one of the pioneers in Andalusia (University of Malaga, 2023). Throughout these years, the programme has varied, until finally opting for an offer of activities with an open itinerary, in which students can freely choose which subjects and workshops they wish to enrol in.

During the academic year 2022/23, according to the data provided by the University of Malaga (2023), 1695 people have enrolled in the Aula de Mayores +55. Of these, 1,180 are women and 515 are men. The age group with the highest number of people enrolled is 66 to 75 years old, with 884, followed by 55 to 65 years old, with 659, and 76 to 85 years old with 144. Finally, 8 people over 86 years old have enrolled.

Lastly, mention should be made of two key concepts in this work. Media and digital literacy, understood as a whole, since in today's Information Society it is necessary to be digitally literate in order to be media literate and vice versa. In the UNESCO-sponsored publication *Media and Information Literacy: Curriculum for Teachers*, these are established as key elements of media literacy (Wilson, Grizzle, Tuazon, Akyempong & Cheung, 2011:18):

- "Understand the role and functions of media in democratic societies."
- "Understand the conditions under which media can fulfil their functions"
- "Critically evaluate media content in the light of media functions" (critical consumption)
- "Engage with media for self-expression and democratic participation" (active participation in the media)
- "Review skills (including ICTs) needed to produce user-generated content" (development of digital skills for content creation)

To this is joined information literacy, which is based on knowing how to "define and articulate information needs", locate it, evaluate it, organise it, use it ethically, communicate it and use ICTs to process it (Wilson, Grizzle, Tuazon, Akyempong & Cheung, 2011:18).

In the case of older people, media and digital literacy becomes a key element in the fight against the generational digital divide, in order to guarantee their full participation and inclusion in the Information Society. Hence the importance of paying sufficient attention to this issue in University Programmes for Older Adults, such as the one at the University of Malaga.

2. OBJECTIVES

The main objective of this work is to analyse the training offer in media and digital literacy within the framework of the academic programme of the Aula de Mayores +55 of the UMA for the academic year 2022-2023.

The following secondary objectives are derived from this main objective:

- To identify specific courses and workshops related to media and digital literacy,
- To analyse the contents and pedagogical approaches of the courses (objectives, methodologies and resources used),
- To evidence and propose improvements or adjustments to the media and digital literacy training offer,
- To study and highlight two cases of didactic intervention of the training programme of the Aula de Mayores +55: the *Radio and podcast workshop "The voice of life"* and the *Digital photography and video workshop*.

The following research questions are posed:

- What kind of specific training actions on media and digital literacy are taught in the Aula de Mayores+55 of the University of Malaga and what specific competences are developed in each of them?
- What are the contents, methodology and resources used in these actions?

- In the light of the training actions offered, what proposals or improvements can be made?

3. METHODOLOGY

In order to achieve the objectives mentioned in the previous section, a methodological proposal has been designed with a qualitative approach (Cook & Reichardt, 1986; Cohen and Manion, 1990; Pérez Serrano, 1994) using content analysis as the preferred method. The use of content analysis has been considered because it is a method that facilitates the systematic recording of information (Hernández Sampieri et al., 2014), a fundamental quality for carrying out the analysis of the educational-communicative actions that form part of the sample (Hernández Sampieri et al., 2014).

A type of non-probabilistic directed sampling was carried out. The sampling units were the media and digital education training proposals included in the Aula de Mayores academic programme for the 2022/23 academic year. For the selection of the sample of educommunicative actions, we were inspired by the dimensions of media education developed by Ferrés and Piscitelli (2012). That is, we have selected initiatives that propose the development of competences related to six dimensions of media education: languages, technology, interaction processes, production and dissemination, ideology and values, and aesthetics.

Based on these criteria, and after a simple consultation of the Aula de Mayores +55 programme, of the 140 training proposals, the sample was limited to 21 courses. By areas of knowledge: 7 ICT workshops, 5 on cinema, 3 on radio and podcasting, 2 on critical thinking and 1 on the press, photography and digital video, advertising and disinformation, respectively.

For data collection, an analysis sheet was designed using Excel software. This instrument includes the following categories: title, subject, areas of study, periodicity of the course, objectives and competences, contents, pedagogical and didactic methodology, educational resources and evaluation of competences. The analysis of the data has made it possible to identify patterns and relationships between the different categories, aspects that have facilitated the fulfilment of the objectives of this work.

On the other hand, a case study has been carried out with the aim of gaining an in-depth and contextualised understanding of the case in question. Case studies allow us to examine causal relationships, identify patterns and obtain detailed information about the case study (Stake, 2007). For this study, two didactic actions have been selected: the *Radio and podcast workshop "The Voice of Life"* and the *Digital photography and video workshop*. Likewise, for the analysis and development of the cases, the following structure has been followed: description of the activity, objectives and competences, contents, pedagogical methodology (how the teaching and learning process has been carried out) and didactic methodology (planning and development of activities), educational resources and evaluation of competences. Finally, a section has been included in which the contribution to active and healthy ageing of the cases analysed is argued.

4. RESULTS

4.1. Analysis of the programme of the Aula de Mayores +55 at the University of Malaga

4.1.1 Topics and areas of study

The study of the training programme of the "Aula de Mayores+55" allows us to detect the existence of a varied offer of subjects that contribute, in one way or another, to the development of media and digital competences by the participating students. These training activities are based on the fields of Social Sciences, Humanities and Engineering. The teaching staff involved in these activities come from areas such as Communication Sciences (Journalism),

Documentation and Library Science, Economics, Law, Art, Architecture, Philosophy, Philology and Computer Engineering. Some of the training activities proposed have a cross-cutting nature, which leads to the teaching-learning process contributing to the development of multiple competences, including media and digital competences. This is the case of the two subjects on critical thinking, which are approached from the field of philosophy, but which are equally appropriate for the fulfilment of the latter aim, media and digital literacy, and have therefore been included in this study.

Also worth mentioning -although not included in this analysis as they are not specifically about media and digital literacy- are the workshops *Public communication techniques (I). Introduction and fundamentals* and *(II) Argumentation and debate*, as both are aimed at the development of communication skills on the part of the students, which they can then apply by participating, for example, in the media.

Having said this, the programme activities can be categorised into the following themes:

Table 1. Media and digital literacy training actions

<i>TOPIC</i>	<i>Title of the training action and periodicity</i>
Press	The History of Malaga told through its press (1st term, 1 day/week)
Cinema	Bette Davis and Joan Crawford: Two queens of Classic Hollywood (2nd term, 1 day/week) Cinema and Architecture (3rd term, 2 days/week) The femme fatale in American film noir (1st term/ 1 day/week) Cinema Seminar: two rhombuses (1st term, 1 day/week) Zine with Z: Cinema through the eyes of María Zambrano (3rd term, 1 day/week)
Radio and podcast	Radio and podcast workshop: The voice of life (Annual, 1 day/week) Radio drama and audio fiction workshop (Annual, 1 day/week) In addition to Netflix a podcast: an exciting journey into the audio revolution (3rd term, 2 days/week)
Photography and video	Photography and Digital Video workshop (1st and 2nd term -2 editions-, 1 day/week)
ICT	Informatics-Microsoft Office (Annual, 1 day/week) Informatics I - Introduction to Windows and the Internet (Annual, 1 day/week) Informatics II - Google Cloud (Annual, 1 day/week) Use of Mobile Phones (1st, 2nd and 3rd term -3 editions-, 1 day/week) 21st Century Technologies (3rd term, 2 days/week) New technologies for the improvement of daily life: Social networks and Internet (2nd term, 1 day/week) Books, magazines, pictures and videos: where to find them, free and legally, on the Internet (3rd term, 1 day/week)
Advertising	Persuasion in advertising (2nd term, 1 day/week)
Critical thinking	Introduction to critical thinking (2nd term, 1 day/week) Thinking truth in post-truth times (3rd term, 1 day/week)
Disinformation	Fake News: the disinformation of fake news (3rd term, 1 day/week)

Own elaboration. Source: Aula de Mayores +55 of the University of Malaga, 2022.

The analysis of the themes allows us to observe that the programme's training offer combines traditional media with new formats, the written with the visual, the sound and the audiovisual, and that ICT occupy a predominant place. Students attending the different training activities have the opportunity to acquire knowledge and skills in different fields of communication and ICT, as well as to develop critical thinking.

4.1.2 Periodicity

The periodicity of the training actions is quarterly, except in the case of three informatics workshops and two of the workshops on the radio medium, where it is annual. In most cases, the workshop is held during a single term, except in the case of the *Digital photography and video workshop* and the *Use of mobile phones workshop*, in which the activity has two and three editions, respectively. All the training actions have a frequency of one class per week, with the exception of *In addition to Netflix a podcast: an exciting journey into the audio revolution*, *Cinema and Architecture* and *21st Century Technologies*, which are taught twice a week. This frequency allows students to enrol in different activities of the programme, if they wish, designing their own training itinerary, or to combine their time with other tasks in a simpler way than if they were taught more times a week.

4.1.3 Objectives and competences

The objectives of each activity respond to the skills they are intended to develop. Thus, in the subject *The History of Malaga as told through its press*, the analysis of past events through the historical press is proposed, for which students are shown how to access the press. Students are therefore provided with skills for the critical analysis of the media and the search for sources, in addition to the knowledge they acquire about Malaga's historical press. It is a good example of an action aimed at media and information literacy, which also has the singularity of focusing on the past, instead of the present.

The training activities on film are preferably aimed at acquiring knowledge and learning to watch films in a critical way, although there is also room for the development of practical proposals. In some cases, the activities are oriented towards specific film genres or figures, such as *The femme fatale in American film noir* and *Bette Davis and Joan Crawford: two queens of Classic Hollywood*, while in others they interrelate themes, as in *Cinema and Architecture* or *Zine with Z: cinema through the eyes of María Zambrano*. The first aforementioned two activities focus on the figure of women and have, among their objectives, the analysis of the role they play in classic cinema and its evolution over time. In *Cinema and Architecture*, the aim is to find out how the two are interrelated, learning through film, the "architectural influences" that can be observed in some film genres and subgenres or how to "recognise some architectural styles in film" (Aula de Mayores+55 of the University of Malaga, 2022). *Zine with Z: Cinema through the eyes of María Zambrano*, for its part, is an original proposal which has the objective that students learn about the main ideas developed by María Zambrano and how she, through cinema, "finds a different way of seeing the world", at the same time as learning about the main cinematographic movements of the 20th century and the films of reference. The Aula de Mayores+55 programme also offers the *Cinema Seminar: two rhombuses*, which, unlike the previous ones, which were more specific, aims to provide students with general knowledge about the cinema and to enhance their memory through film, as well as pursuing the development of audiovisual skills through the production of a small work in which all the students participate. All these training activities are aimed at developing media skills in the cinematographic medium.

The activities around radio and podcasts have, in all cases, a markedly practical orientation and seek the active participation of the students. Thus, in the three workshops taught on this subject - *Radio and podcast workshop: The voice of life* (which will be analysed as a case study), *Radio drama and sound fiction workshop* and *In addition to Netflix a podcast: an exciting journey into the audio revolution* - the aim is for students to learn, fundamentally, to develop scripts, write, voice, record and broadcast their work. The main objective pursued is for students to acquire the necessary skills for the creation and broadcasting of their own sound content in the radio medium and in the podcast format.

The *Digital photography and video workshop* (which will also be analysed in detail in the case study) has a twofold objective. On the one hand, to acquire knowledge to be applied in a

practical way, and on the other hand, to develop skills and abilities in the use of photography and video equipment, as well as application and computer software for image, video and sound editing. The aim is therefore similar to that of the radio and podcast workshops, that students develop the necessary skills for the creation of their own content, whether in visual or audiovisual format.

Except in the case of *21st Century Technologies*, which is more theoretical, ICT courses have a markedly practical character. The main objective is the development of technical skills and abilities to know how to manage in the new digital ecosystem. In the case of the three annual workshops, the aim is for students to acquire skills from scratch - using the mouse and keyboard - and to learn to use basic computer programmes for daily life - such as Microsoft Office -, to surf the Internet and to use Google's Cloud tools. The quarterly courses focus on the development of specific skills such as learning how to use mobile phones and applications, how to communicate through social networks or how to locate resources on the Internet in different formats (text, image, video...). The *21st Century Technologies* activity, on the other hand, has a theoretical focus, and aims to help students understand the evolution and development of technologies. All the training actions proposed focus on the development of digital, communicative and informational skills.

In the subject *Persuasion in advertising*, the purpose is for students to learn "the basic functioning of current advertising", to know how to detect the persuasion and manipulation of these messages and to develop "a critical spirit" (Aula de Mayores +55 of the University of Malaga, 2022). The aim, therefore, is for students to adopt a critical attitude towards advertising and to reflect on the type of message that is disseminated through it.

The training activities *Introduction to critical thinking* and *Thinking the truth in times of post-truth* are a case apart, as they are two proposals that start from the field of philosophy and do not directly pursue the development of media and digital competences. However, due to their subject matter, and above all due to the fact that they promote critical thinking, they can be perfectly framed as actions that contribute to the promotion of these competences. In *Introduction to critical thinking*, for example, students are encouraged to be able to "objectively analyse any information, source or belief in order to assess its accuracy, validity or importance" (Aula de Mayores +55 of the University of Malaga, 2022), one of the key components of media and digital literacy. In the case of *Thinking the truth in times of post-truth*, there is no direct reference to these competences either, but it does talk about "the importance of reflecting on the truth and its relationship with human freedom". This is absolutely necessary in a world where the lies that circulate put democratic societies at risk, as they are messages that seek to generate fear and uncertainty in the population and thus contribute to political and social instability.

The last of the actions analysed, *Fake News: the disinformation of fake news*, deals with the same issue. This activity is approached from a legal perspective, as the teacher is a law professor. The aim of the activity is for students to be able to "identify the rights of citizens in the face of fake news", as well as to learn about "the current legal mechanisms to combat disinformation" and the role of the State in this regard (Aula de Mayores +55 of the University of Malaga, 2022). The aim pursued, therefore, is for students to acquire skills in the fight against disinformation from a legal perspective, which is also part of media and digital literacy, as knowing the rights that protect citizens helps them to defend themselves against this type of message.

In short, through the different training actions proposed, students can develop skills for the critical analysis of information, the search for quality sources and resources, communication in virtual environments, the creation and dissemination of visual, sound and audiovisual content, the use of digital devices and the use of software and apps for mobiles and tablets. All of this

contributes to the empowerment of senior learners in the Information Society, by having the knowledge, skills and resources for active participation, which is the basis for full inclusion.

4.1.4 Contents

The subject *The History of Malaga told through its press* covers the history of Malaga through the press in a broad manner, through nine themes. It begins with the news in the Modern Age and concludes in the 20th century, with the Franco dictatorship. Using the press of the time, it deals with events such as natural disasters, epidemics, droughts, social demands, royal visits and events. He pays attention to industrial Malaga, Republican Malaga, the Civil War and the dictatorship. It also devotes one subject to illustrious figures in the press, and another to advertising at the beginning of the 20th century. These contents enable students to gain an in-depth knowledge of the history of their city, their immediate surroundings, through the press kept in the archives, from a critical perspective, learning about the purpose, orientation and editorial line of the different newspapers, and how this conditions the approach taken in the press to each event or public figure. The historical perspective makes it possible to analyse the facts with sufficient distance and with one's own knowledge of what happened, which enriches the view and makes it possible to reflect on the issues that form part of the media agenda at each historical moment and to detect the different approaches to the same event -something that helps to develop a critical view of the content of the media-.

The five activities focusing on cinema have a wide range of topics. In the case of *The femme fatale in American film noir*, for example, the training programme consists of eight topics, one general, about the content of the course, and seven focused on a specific film. It also includes the screening of two of the films discussed in class. The content of *Bette Davis and Joan Crawford: two queens of Classic Hollywood* is reflected in the title of the course itself. The programme is made up of two themes dedicated to each of the actresses featured in the course and six themes on three films by each artist. As in the previous case - considering that it is the same teacher who gives the activity - it is contemplated the screening of two films, one by Bette Davis and the other by Joan Crawford. Both training activities enable students to gain in-depth knowledge of the films dealt with in class and to train their capacity for film analysis, especially through the screening and subsequent discussion of these two works.

In the case of *Cinema and Architecture*, the programme includes ten subjects, some of a general nature and others more specific. It studies the process of creating a cinematographic work; the origins of the relationship between cinema and architecture; the western genre in relation to the landscape and the city; space and architecture in Alfred Hitchcock; architectural research based on film analysis; imaginary cities in fantasy films and cities of the future in science fiction; architecture in the documentary genre in Spain and soundtracks in film. This is an activity that focuses its attention, therefore, on film locations and, specifically, on architecture. This makes students aware of the importance of the spaces in which films are set, of the intentionality of the creators when selecting certain locations for filming and of the role of architecture in the construction of the stories. In this way, it educates the viewer to learn to see cinema beyond the performances of the protagonists and the stories that are told, focusing attention on the where.

The activity *Zine with Z: Cinema through the eyes of María Zambrano* deals with both the figure of the thinker and the history of cinema, linking them together. At the same time as analysing the life and thought of María Zambrano in detail, the main cinematographic movements of the 20th century and some of their most outstanding creators are studied. One of the themes is devoted to the influences between María Zambrano and filmmakers and another to "teaching to look". In this way, it seeks that students acquire knowledge from a dual perspective and that they develop a critical awareness for the viewing or analysis of audiovisual works based on the thought of María Zambrano.

The *Cinema Seminar: two rhombuses*, finally, has a syllabus with several blocks: the different stages in the history of cinema, soundtrack and dubbing competitions, advertising in the 50s and 60s, film professions and the history of cinema in Malaga. Short films are also included, through the viewing of different works, as a means of intergenerational rapprochement. These contents provide students participating in the activity with general notions about the world of cinema, from a historical perspective, but also from a current perspective, thus carrying out media literacy work through this medium.

The analysis of the contents on cinema taught in the Aula de Mayores +55 allows us to see that both general and specialised contents are offered, and that in all of them, the main focus is on learning to watch films. Given the variety of approaches to the world of film, there is the possibility of increasing the training offer in this field and promoting new activities focused, for example, on film trends, genres, authors or countries.

The three radio and podcast workshops offer complement each other, offering some common blocks of content and others that are differentiated, given the specific nature of each training action. The radio and podcast workshop, which is of a general nature, consists of eight subjects covering the basics of radio production: language, genres and formats, documentation, step outline and scripts, voice-over (voice care, breathing techniques, intonation, etc.), the radio studio, post-production (sound resources and editing), new narratives (enhanced podcast) and ways of disseminating sound content through radio and the podcast format.. The *Radio drama and audio fiction workshop*, which focuses specifically on these genres, consists of three different blocks, organised by level: beginner, intermediate and advanced. The initial module covers breathing techniques and care of the voice, the interpretation of scripts and step outline, practice in front of the microphone and storytelling in sound fiction. In the intermediate module, the above is studied in depth, to which is added the creation of characters, the radio drama script, sound effects and production, or the radio soap opera. The advanced module, finally, works on the same aspects as the two previous modules and deals with recording techniques, editing and montage or public performance. Thirdly, *In addition to Netflix, a podcast: an exciting journey through the audio revolution*, focuses its content on the podcast format and is organised into four modules. The first and second modules focus on the definition of the format, characteristics, typology and platforms, while the third and fourth are devoted to the basics of creating a podcast. Mobile applications for recording, the development of the idea and script, sound resources, recording in a radio studio and broadcasting via audio platforms are covered. In the latter case, unlike the two previous ones, the workshop does not include any specific block on voice-over (although the methodology states that notions will be given).

The *Digital photography and video workshop* has a first common theme on still and moving images, image composition and audiovisual language, and two specific blocks, one on photography and the other on video. The photography block deals with the basic techniques for taking photographs and an introduction to the GIMP photo retouching programme. And in the video block, planning the filming and basic techniques for recording video with a mobile phone are covered, as well as working with the Action Director app and the audio editing programmes Audacity and OpenShot, for video editing. The activity is therefore approached from a dual perspective, looking at the common elements between photography and video and specifically developing each one of them.

With regard to the training activities focused on ICT learning, the strategic nature of all the actions should be emphasised, as the content of these activities that are taught aims to cover the whole spectrum of training needs in the fight against the digital divide. In the case of the three annual IT workshops, the contents are organised on two levels. The first of the workshops, *Informatics I - Introduction to Windows and the Internet*, includes computer and Internet basics, the Windows operating system, digital photography (with a specific focus on file management and copying) and Internet navigation. In the second level, two different proposals are offered:

Informatics II - The Google Cloud and Informatics - Microsoft Office. The first of these workshops focuses on Google cloud resources (Gmail, Google Meet, Calendar, Drive and Google office applications), while the second focuses on Word, Excel and Power Point.

The workshop on *Use of mobile phones* provides an overview of how to use a smartphone. Aspects such as configuration (settings), Internet connection (data or wifi), the cloud, browsers and search engines, Google Assistant and Gmail, messages, photos and videos, security and installation and configuration of applications (Eduroam, Twitter, Whatsapp, YouTube, Facebook, Skype, antivirus, memory cleaners, Maps and Waze, password manager, Dropbox, Drive or UMA app) are covered. In this way, students participating in the activity can acquire a basic knowledge of all the settings and resources of their mobile phone. A proposal that does not focus exclusively on the mobile phone is provided by the activity *New technologies for the improvement of daily life: Social networks and Internet*. This training action is divided into three blocks. In the first, basic ICT and Internet vocabulary is studied and "basic guidelines for surfing the Internet safely" are offered (Aula de Mayores +55 of the University of Malaga, 2022). The second focuses on communication tools: Facebook, Instagram, Whatsapp, Skype and Facetime, while the third deals with apps for leisure and safe online shopping.

Books, magazines, images and videos: where to find them, free and legally, on the Internet is an activity through which students can learn about open access and copyright, the online resources available in public libraries and specifically in the Library of the University of Malaga as well as other websites where they can "find (legally) free books, magazines, images and videos" (Aula de Mayores +55 of the University of Malaga, 2022). It is therefore an activity focused on learning how to search for online resources.

Finally, *21st Century Technologies* has a theoretical syllabus that includes an introduction to the concept of technology, innovation, intellectual property and patents, "computer science and artificial intelligence", "communications, Internet and the Internet of things", "cybernetics and robotics", "rescue robots and surgical robots" and "travel technology" (Aula de Mayores +55 de la Uni-versidad de Málaga, 2022). In contrast to the other activities that seek to develop students' skills and abilities, in this case is sought that they acquire knowledge and reflect on the importance of technology in today's society.

Persuasion in advertising is an activity that deals with the characteristics of advertising communication today - in comparison with the past - and studies the functions that fulfill texts and images, the role of humour, as well as rhetoric, through the analysis of strategies for persuasion and advertising ethics in issues such as sexism, racism or violence. It is a training action that contributes to students' media literacy, as it teaches them to identify the persuasive strategies used by advertisers in order to know how to deal with them in a critical and conscious way.

In *Introduction to critical thinking*, the characteristics of critical thinking, argumentation, "beliefs and biases non-conscious in reasoning", as well as the key elements for dialogue and persuasion are studied (Aula de Mayores +55 of the University of Malaga, 2022). In the case of Thinking the truth in times of post-truth, the concept of truth throughout history is addressed, with special attention to the 20th century and to the concepts of freedom and self-acceptance.

In the case of the training action *Fake News: the disinformation of fake news*, concepts such as propaganda, manipulation, the right to information versus freedom of expression, "the rights of the public and professionals in the face of media content", self-regulation, complaints and state mechanisms for the fight against disinformation and the role of the National Commission for Markets and Competition (Aula de Mayores +55 of the University of Malaga, 2022) are analysed.

4.1.5 Pedagogical and didactic methodology

The methodology used in almost all training activities is the master class combined with practical activities in the classroom and student participation through analysis and debate. The latter is particularly important in the case of courses of a more theoretical nature. In other courses with a more practical focus, the practical exercises in the classroom and also outside the classroom become the most relevant element for students to consolidate their knowledge, skills and abilities.

Different types of activities are used depending on the topic of the training activity. Thus, for example, in the case of the historical press, work is done in class with images from newspapers. In the case of film courses, we logically opt for the viewing of film excerpts for analysis. In the advertising course, it is resorted to the viewing of advertising spots. In the photography and video course, practical examples are shown and students use their own equipment. In the radio and podcast workshops, a practical methodology based on learning-by-doing and student participation is adopted, although in one case the inverted classroom is also used, in addition to the master classes. In the activities dealing with ICT, work is also done with practical examples and practical exercises in the classroom, or students are encouraged to participate. Game-based learning is also used in one of the courses. A curious case is the training action on post-truth, which uses methodologies that encourage critical thinking, such as maieutics, simulation, case studies, critical reading or dilemmas, gamification, concept mapping, questionnaires and a summary of what has been seen.

In all the training activities, there is an interest in encouraging student participation and ensuring that the class is not based exclusively on the transmission of knowledge by the teaching staff, but also on student analysis and debate, and on carrying out practical exercises based on the examples seen in class. In short, the approach is to learn by doing and not exclusively by observing or commenting. In some cases, this participation goes beyond the classroom itself and is translated, as in the case of the *Radio and Podcast Workshop*, into a radio programme broadcast on a radio station outside the University of Malaga itself.

4.1.6 Teaching resources

The most frequently used resources for lessons are Power Point presentations, extracts of films and videos. In addition to these, newspaper clippings, photographs, advertisements, notes provided in advance for students to follow the lessons, computers, free or proprietary software and the Internet are also used. Cloud applications and digital platforms for participation, such as Mentimeter, Kahoot or Socrative, are also used in some cases. In radio and radio drama courses, the radio studio is used.

It is also to be mentioned the use, in some training actions, of the Virtual Campus of the University of Malaga as an educational platform where teachers upload and share materials, as well as being used as a means of communication through forums and as a space for the submission of practical work, for example.

4.1.7 Competences evaluation

The Aula de Mayores +55 of the University of Malaga does not have an established system for the evaluation of competences, as there is no official accreditation of these competences. However, the teaching staff establishes ways for this assessment by means of the activities and practical exercises that are carried out in the classroom or that are requested as a practical exercise at the end of the course. In those courses that are more theoretical in nature, assessment is carried out fundamentally through student participation, by means of the analysis of examples or cases presented in class or debate. Thus, in the case of courses on cinema, for example, fragments of films are analysed and debates are held on the basis of this analysis. In those training actions focused on learning by doing, such as radio or radio drama courses, the

evaluation is in the own production of the programme. In the Film Seminar and in the Digital photography and video workshop, the completion and exhibition of a final project is proposed, in the first case as a team, and individually in the second. There are also specific examples of assessment by means of gamification or questionnaires..

4.2. Teaching experiences in media and digital literacy for active ageing

4.2.1 Radio and podcast workshop "The voice of life"

Description of the activity

The *Radio and podcast workshop: "The voice of life"*, is a training proposal aimed at the students of the Aula de Mayores +55 of the University of Malaga. The workshop consists of the production of a radio programme. The students, under the coordination of the monitor, tackle the different phases of the creative process of the programme's content: pre-production, production, live broadcasting or post-production and broadcasting on podcast platforms. The live programmes are made in the studio of the radio station Color Comunitaria, although the facilities and technical materials of the radio studio of the Faculty of Communication Sciences of the UMA are also used for recordings and programmes made outdoors. This is an annual academic proposal. The training sessions are held on Thursdays, in alternating small groups for the realisation of the radio programmes and in large groups for the theoretical-practical classes.

Objectives and competences

This workshop mainly aims to:

- Improve oral and written skills;
- Develop social and teamwork skills;
- Acquire information, digital, aesthetic and media skills;
- Encourage the social promotion of the participants;
- Increase the presence and improve the image of older people in the media;
- Contribute to healthy ageing.

Contents

Under the learning-by-doing methodological proposal, the academic programme is made up of 8 subjects that respond to three blocks or lines of action. The first three subjects: "Radio language", "Genres and formats" and "Documentation" aim to provide knowledge of radio codes and the preparatory phase for the creation of content. Once the basic competences and skills for the elaboration of contents have been acquired, tools for the production of sound pieces are provided. For example, the practice of writing a message, the technical-literary script, the step outline and the voice-over of the written content are taught.

Finally, there is a large technological block or block of technical resources. Exceptionally, in this radio workshop, the students carry out the work of technical control and sound mixing. Therefore, a block is dedicated to the radio studio: sound table, acting in front of the microphone and gestural communication. After the content has been generated or the piece has been recorded, students have the opportunity to edit or postproduce the recording. This block is directly related to the creation of the podcast or edited piece to be broadcast on digital platforms for asynchronous consumption. Likewise, the creation of channels/profiles in podcast distributors is also taught.

Pedagogical and didactic methodology

In this workshop, the "learning by doing" methodology is implemented. Instead of following the sequence from theory to practice, the process is reversed. This methodology may initially generate a certain degree of insecurity in the students. However, at the end of the practice, and after the analysis and feedback from the instructor, the participants recognise that under this

methodology the knowledge is assimilated more effectively. This practical phase of the learning process is carried out in the radio studio, in front of the microphone.

On the other hand, collaborative methods were used in this workshop. All the students were divided into subgroups of six people to produce a programme in the magazine format. The magazine programme is characterised by a wide range of content and diversity, which requires and facilitates coordinated teamwork. Under this premise, the participant makes a content proposal that fits in time, format and theme with the proposals made by the rest of the programme's classmates. The proposals are collected in the step outline, an instrument that consolidates teamwork.

The teacher, in the step outline meetings, assigns the role to be assumed by the workshop participants: driver, collaborator, control technician, etc. The roles are rotated to ensure that the students achieve full learning and also to promote and exercise empathy.

The theory sessions are planned to provide students with the fundamental knowledge and resources for the production of radio content. All phases are covered, from pre-production to the editing and broadcasting of pieces and programmes. The theoretical and practical sessions take place in virtual mode, every other week of the month. However, at the end of the programme, each student receives a report evaluating his or her work. In addition, students have access to a platform of digital resources to facilitate the approach to each of the phases of the production of sound content.

Competences evaluation

The evaluation consists of a verbal or written assessment of the performance in the radio programme or of the pieces created by the participants. This evaluation is carried out in the group session in order to share with the students the assessments made. The assessed student has the opportunity to carry out a self-evaluation. The rest of the workshop participants can also intervene with their appraisals. In order to facilitate the group's intervention at this stage, the programmes are distributed on podcast platforms and saved in a shared digital folder before the theoretical-practical group session.

Contribution to active and healthy ageing

Group radio practice provides students with knowledge that comes from the responsibility of preparing content for broadcasting in the media. Participating in the media ensures the development of information, digital and media literacy. At the same time, making radio in a group facilitates peer-to-peer learning. Also, in old age, the network of family and social ties can be weakened by unwanted losses. The participation of older people in initiatives such as the one described here contributes to the enrichment and strengthening of the network of acquaintances and friends. Therefore, the practice of radio acts as an enhancer of an active and healthy life.

On the other hand, the presence of older people in the media as content producers ensures that a real image of the group is disseminated, in contrast to the stereotyped and ageist image of older people disseminated by the media.

4.2.2 Digital photography and video workshop

Description of the activity

The Digital photography and video workshop is a training proposal that arose from the detection of a need, that of providing the students of the Aula de Mayores+55 of the University of Malaga with an activity in which they could delve into something that is part of everyday life, such as photography and video -especially now, with mobile phones, which allow us to have a camera and video camera in our hands on a constant basis-. It also borns from the realisation that photography is a way to bring older people closer to ICTs, a simple way to promote the

development of media and digital skills, as it is part of their vital interests. In this quarterly workshop, which is held in two editions, students learn the basic fundamentals of image composition and audiovisual language, learn to handle and control the settings of the camera and video camera through their own device and study and practice with free software programmes for photographic retouching and video and audio editing, and with an app for video editing. Given that computer programmes are used, students are required to have some knowledge of computers, so that they can take advantage of the part of the course focused on working with specific software. As a final activity of the course, a photo retouching and video editing project is proposed to be developed and exhibited in class.

Objectives and competences

The objectives of the workshop are the following:

- "To know the basics of composition, the handling of light and audiovisual language (types of shots, sound, transition elements, editing...)."
- "To acquire skills and abilities in the handling of digital equipment for taking photographs and recording video (cameras, video cameras, Smartphones, Tablets...)."
- "To acquire the first notions of photographic retouching and video editing through the use of free of charge and/or free software, in order to develop the creative side through photography and video."

Contents

The workshop is structured in six themes, one general, two about photography and three about video. The first topic has an introductory character and deals with still and moving images, learning the basics of image composition and audiovisual language. Themes 2 and 3 focus on photography. The first of these studies the basic techniques of taking photographs with digital equipment (configuration, storage, handling of the equipment, etc.), in a theoretical and practical way. Students learn and practice with their own device (camera, smartphone, tablet...) the different camera settings, which are used for both photography and video. Topic 3 is an introduction to photo retouching using the free and open source software GIMP. In this subject, students learn the basics of how to use this programme by means of practical exercises in the classroom. Topics 4, 5 and 6 are devoted to video. Topic 4 studies the planning of the shooting, from the idea to the recording, and deals with the basic techniques of recording and editing video with a mobile phone, working with the Action Director app. Topic 5 focuses on audio editing - for use in the video - with Audacity and topic 6 on video editing with OpenShot, both free and open source software.

Pedagogical and didactic methodology

Although it is based on master classes to explain concepts, equipment adjustments and the use of programmes, the methodology of this workshop is eminently practical. As indicated in the course programme, "the explanation of the different concepts" is "accompanied by the visualisation of practical examples and the handling of the equipment by the students themselves, with the guidance and support of the teachers". In addition to classroom practice, students are encouraged to carry out exercises outside the classroom on what they have studied in class and to share them, if they wish, with their classmates and teachers through the Virtual Campus, for subsequent commentary in class. Participation in the classroom is encouraged by asking questions and commenting on the practical examples and exercises developed by the students in the workshop itself. On the other hand, students are also provided with the link for downloading and the instructions for installing the free software programmes used in class, so that they can download them onto their own computer and practice at home.

Teaching resources

The educational resources used in the workshop are the presentations with the step-by-

step explanations, which are uploaded and shared through the Virtual Campus, the practical examples, the photography and video devices that the students bring to class to practice (cameras and video cameras, smartphones, tablets...), the mobile application, the free software programmes and the computers in the IT classroom where the sessions are taught. As mentioned above, the Virtual Campus not only becomes the space for sharing materials and presenting practical work, but also for communicating and interacting beyond the physical classroom environment, through the forums.

Competences evaluation

The workshop promotes continuous assessment by means of the practical activities proposed throughout the different sessions. As a learning outcome, the preparation and presentation in class of a final photo retouching/montage and video editing project is proposed, which can be combined. Assessment by the teachers is carried out verbally, in the classroom, or in writing, by means of comments about the practical activities presented by the students.

Contribution to active and healthy ageing

As already indicated in the description of the activity, both photography and video are a way for older people to acquire media and digital skills. In addition to the fact that the habit of taking photographs has been firmly established in society since analogue photography, nowadays everyone has a camera and video camera at hand via their smartphone. Workshops such as this one contribute to the development of skills for this new digital environment, enabling senior learners to make the most of their photographic and video equipment, whether cameras, video cameras or mobile devices, not only by developing skills in the use of such equipment, but also by acquiring knowledge of the basic compositional principles of taking still and moving images. In the same way, the use of free and open source software, which students can download and use on their own computers, is promoted, providing them with the necessary knowledge and tools to create their own photo montages and videos. For example, they are invited to create their own personalised postcards and greetings cards, posters or videos. This also encourages their active participation in the Information Society, the possibility to have a voice and to produce their own content to share and disseminate it.

5. CONCLUSIONS

As can be seen from the analysis of the training actions implemented in the Aula de Mayores +55 of the University of Malaga, all of them are aimed at the development of media and digital skills by its students, useful for their daily lives and for the promotion of active ageing. The offer is wide and varied, in them is promoted the participation of students and learning by doing. The methodology employed is in line with that normally used by university teaching staff, combining lectures with examples and practical exercises and the carrying out, in some cases, of projects, programmes or final projects. The variety of the offer allows students to develop their own itinerary and cover their training needs.

After analysing all the experiences, the possibility of offering specific courses on media not so often addressed in the Aula de Mayores+55 programme, such as the print and digital press or television, is proposed as a way of improvement. In the latter case, the greater difficulty involved in setting up any activity involving the use of television equipment (cameras, set, production control, etc.), which is more difficult to access, should be taken into account. It would also be necessary to offer activities that address the current situation of the media and the functioning of the media system, for a critical and argued knowledge, thus fulfilling the first of the objectives of media literacy established by UNESCO.

Another aspect to be highlighted is the need for personalised attention to students, which is evident, albeit not expressly, in the different training actions offered, and which is essential for significant student learning, based on their prior knowledge and their own training needs. It

is also necessary for the activities not to be limited to training based on the acquisition of knowledge and its application in the classroom, but also for students to be able to create their own creations based on what they have learnt, as proposed in the case of the digital photography and video and radio and podcast workshops, analysed as case studies. In this way, the final objective of media and digital literacy, which is that of giving people a voice and active participation through participation in the media and the creation and dissemination of their own content, is promoted, thus combating ageism and stereotypes, and increasing the presence of older people in the media.

Finally, the importance of lifelong learning for active ageing and the need for the university, in the fulfilment of its functions and in its commitment to society, to continue to promote and increase the offer of training activities that contribute to the media and digital literacy of older people should be emphasised.

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CHAPTER 5

USE OF ICT AGAINST THE DIGITAL DIVIDE AND FOR THE IMPROVEMENT OF CYBERSECURITY

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ABSTRACT:

This chapter aims to focus on the importance of using and teaching computer skills in the digital age and especially after the Coronavirus years. Information and communication technologies play a very important role in contemporary society and are needed in various areas. In this chapter, two contexts in particular will be explored: digital divide and cybersecurity. The former has acquired a broader definition during the last years and has expanded its impact; the latter had to cope with new threats that spread with the pandemic emergency due to Covid-19. Having introduced the definition and evolution of the two aspects, some good practices that emerged during the pandemic period, particularly in the educational sphere, are presented, and the needs dictated by those changes in the social and work environment that remain even after the pandemic emergency are explored in depth.



1. THE EVOLUTION OF DIGITAL DIVIDE

The term digital divide gained popularity at the beginning of the 1990s, and initially referred to the mere possibility of physical access to the Internet. Nowadays, this definition has taken on a broader meaning: in addition to the division of the population into those who have access to the Internet and those who do not, it also indicates those who are familiar with information and communication technology and those who are not. This digital divide results in a condition of exclusion from the digital society with potential cultural, social and economic damage.



Source: <https://iari.site/2021/04/18/digital-divide-e-accesso-a-internet-nellue/>

The whole context of the digital divide has continually changed shape, both at the level of the physical components (new devices such as smartphones and tablets) and at the level of the possibilities offered by Internet use (working from home, online payments, access to institutional services).

It is therefore not a purely technical problem that can be solved by owning devices that enable connection to the Internet, but a broader and more complex set of issues that are also linked to the knowledge and experience of the users. This social phenomenon is characterised by several other aspects:

- Knowing how to read and write
- Technological illiteracy
- Intellectual and practical skills of individuals, minorities and people with disabilities
- Mastery of technological innovation

- Content production
- Quality of life
- Expansion of specific communities
- Inclusion in the world of work
- Ability to actively participate in the new economy
- Development of public interest space and governmental social services
- Research and development

Familiarity with information and communication technology lies in the ability and confidence to use the Internet. There is therefore a heterogeneity even among those who have access to the Internet, which consists in the different degree of mastery of the medium and freedom of action. Moreover, even those who have greater skills in using the Internet may, conversely, find themselves in technical and practical difficulties, for example due to a lack of a fast and stable connection.

Some categories are most affected by the digital divide, such as:

- Elderly persons
- Women not employed or in disadvantaged circumstances
- Immigrants
- People with disabilities
- Imprisoned persons
- People with low levels of schooling

Generally speaking, the digital divide is a condition that is particularly influenced by mainly three factors: economic, territorial and cultural aspects. There are still places where the rapid growth in the use of the Internet has been uneven due to several factors, including mainly the poverty of certain areas, the absence of infrastructure, political restrictions or a simple lack of technological culture.

2. CYBERSECURITY:

Cybersecurity or computer security refers to a series of actions aimed at defending computers, servers, mobile devices, electronic systems, networks and data from malicious attacks. This is an increasingly important and evolving context in today's age. Private users are confronted with access to the Internet more and more and in different contexts, not only personal but also business and institutional. At the level of cyber threats, the increase in the number of users using devices and accessing the Internet can see an increase in the conditions under which cyber-attacks can occur.



Source: <https://www.kaspersky.it/resource-center/definitions/what-is-cyber-security>

Cybersecurity has therefore become increasingly important over time and has had to deal not only with a general increase in users and usage, but also with aspects related to new and evolving types of threats. Cybersecurity therefore deals with several areas and is divided into the following contexts:

- Network security: concerns computer networks
- Application security: concerns software and devices
- Information security: relates to data integrity and privacy
- Operational security: concerns processes and decisions for the management and protection of data assets
- Disaster recovery or business continuity: concerns companies' strategies for responding to any attack that causes a loss of operations and data
- End-user training: this is about teaching techniques to make people understand the importance of using devices, sites and information systems correctly

A distinction can also be made between computer security and digital security. The first concerns the protection of entire networks, information systems or other digital components. The second concerns the protection of data, identity and online assets.

In the digital age, protecting personal information is more important than ever, for companies, businesses and organisations as well as for private individuals. It is essential to know how to strengthen security when using the Internet and computer systems, e.g. by strengthening passwords or using two-step authentication.

The field of cybersecurity has become increasingly important in today's world, both in terms of technological utilisation and in economic and geopolitical terms due to the increased dependence of everyday activities on computer systems and the Internet. The number of data breaches is increasing every year and global investments in cybersecurity solutions are rising.

Three types of malwares can be identified:

- Cybercrime: individuals or groups that attack systems for financial gain or to cause business disruption
- Cyber-attacks: aim to gather information for political purposes
- Cyberterrorism: aims to undermine the security of electronic systems to cause panic or fear

In the Cybercrime category, which affects end users and companies, there are several attack methods commonly used to gain control of a computer system.

Malware (contraction of 'malicious software') consists of software designed to damage or cause a computer to malfunction. It is spread mainly through attachments, downloads and links from unknown and unsafe sources. Some examples of malware are:

- Virus: a programme capable of automatic replication that attacks a file and spreads through the computer system
- Trojan: disguised as legitimate software, can cause damage or allow attackers to collect data
- Spyware: a programme that secretly records users' actions, enabling cyber criminals to collect information such as credit card data
- Ransomware: blocks access to user files and data by threatening to delete them unless a ransom is paid
- Adware: advertising software used to spread malware
- Botnet: networks of computers infected with malware used by cyber criminals to perform online activities without the owner's authorisation

SQL ("Structured Language Query") code entry is a type of computer attack aimed at taking control of a database and stealing its data, by inserting malicious code into data-driven applications.

Phishing consists of sending e-mails that appear to be from legitimate companies in order to induce users to provide sensitive data such as credit card data or other personal information that is exploited by cyber attackers.

Man-in-the-Middle attacks consist of the interception of communications between two users in order to steal their data, as can happen using an unsecured Wi-Fi network, for instance.

In a denial-of-service attack, cyber criminals prevent a computer system from fulfilling legitimate requests. This results in excessive network and server traffic that prevents companies from carrying out their activities.

Here are some simple tips for end users to protect themselves against the most common cyber-attacks:

- Keeping software and operating systems up-to-date
- Use antivirus software and keep it updated regularly
- Use complex passwords in order to reduce the chance of being guessed and avoid using the same password for different systems, accounts and/or websites
- Do not open email attachments from unknown senders as they may be infected with malware
- Do not click on links in messages and/or emails from unknown senders or unfamiliar websites
- Avoid using unsecured Wi-Fi networks in public spaces as this could expose devices to Man-in-the-Middle attacks (i.e. internet traffic could be intercepted and manipulated)

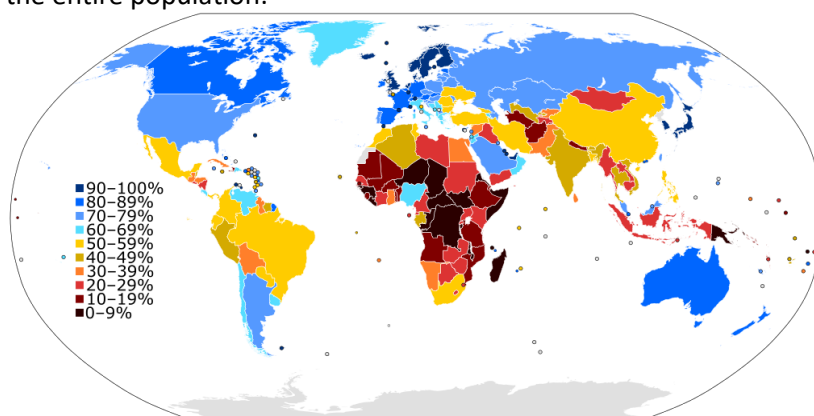
3. COVID-19 PANDEMIC EFFECTS ON DIGITAL DIVIDE AND CYBERSECURITY

The Covid-19 pandemic widened the digital divide between the online and offline population. Rising unemployment and prolonged measures of isolation made digital inclusion almost universally essential, and the difficulties encountered during the pandemic by those who lacked internet access or had little experience with devices and the internet changed the perception of the digital divide in less than a year.

The offline population is more susceptible to feelings of isolation, inadequacy or loneliness, both on a personal level (contacts with family, community and friends) and on a professional level where digital and online are becoming increasingly fundamental. During the pandemic, these difficulties were obviously accentuated as there was no possibility of moving and having access to physical spaces in which to maintain contact or to have access to one's workplace to continue one's activities.

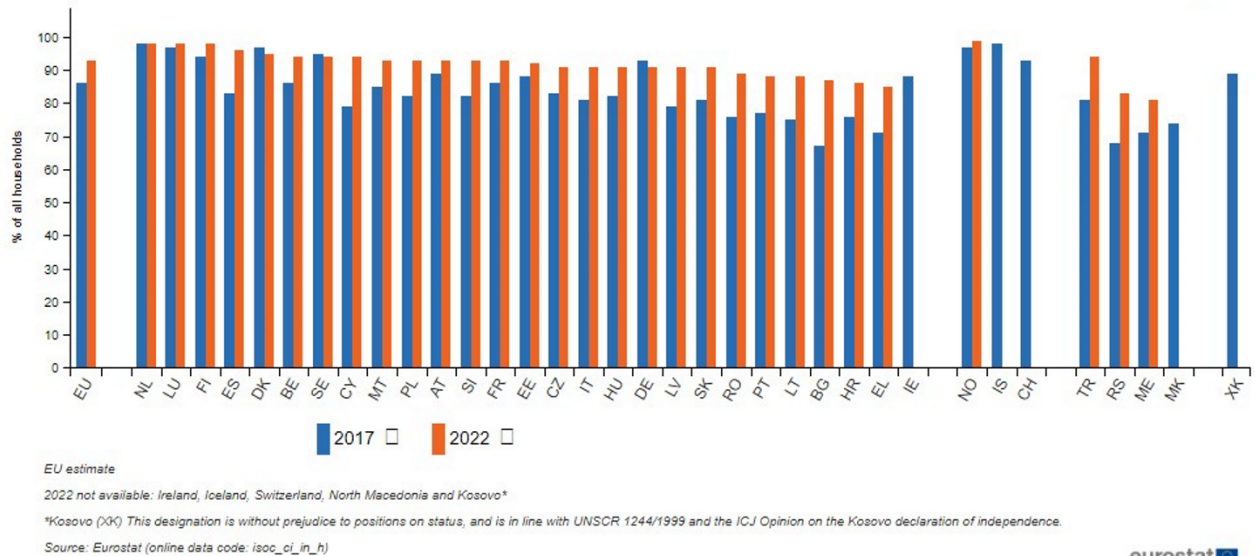
With distance learning and remote working that emerged as a dominant trend, now more than ever having an internet connection and an electronic device are considered primary goods and those who do not have access to them find themselves excluded from many aspects of society.

A worldwide overview of Internet access is provided by the WEF (World Economic Forum) in the graph below showing the percentages of the population online in the various countries. It can be seen that there are realities in which the percentage of people without Internet access almost reaches the entire population:



The demand for Internet access generated by the pandemic containment policies completely revolutionised the use of network services and led to an increase in home Internet use. Below is a graph provided by Eurostat on the increase in home internet access between 2017 and the pandemic years that shows this trend:

Internet access of households, 2017 and 2022



The cybersecurity sector was particularly affected by the situation created by the pandemic and had to cope as quickly as possible with both new emerging threats and the increase in pre-existing threats. Cyber-attacks during the pandemic period increased exponentially and the increase of remote working expanded the risks to corporate data that was inadvertently endangered by employees.

For instance, platforms such as Zoom, Teams, Meet, which had already existed for some time, were tested extensively by the masses during the lockdown period, making it possible to discover their possible vulnerabilities. Malware and phishing are types of cyber-attacks that have always been spread mainly by email, and the increase in the use of email has consequently caused a proportional increase in the risk.

The lack of adequate computer security knowledge on the part of individual users and employees, coupled with inexperience with the new type of remote working, has made it extremely easy for hackers to perpetrate their attacks.

4. LESSONS LEARNED. THE IMPACT OF PANDEMIC STILL PRESENT IN TEACHING AND LEARNING ENVIRONMENTS

We learned a lot from the Covid-19 pandemic crisis. We were forced to reinvent our old habits and approach new methods. The pandemic crisis was at first sudden and unsettling, even

for the school and the academic world, then it propelled new mindsets, styles, methods all over the world and in every field: social, institutional, relational and educational. Covid-19 in many fields has been a revealing agent and accelerator, not a provocateur.

Significant damage was suffered not only by students but also by teachers: both found themselves in new learning processes for which they were mostly neither culturally prepared nor technically equipped. The effects of both digital divide and Covid-19 pandemic affected all spheres of human existence, from the productive, cultural, social to the most intimate sphere of people.

One of the most deeply marked contexts is that of education. Hardships and tensions also derive from the absence and contradictory nature of information, lack of preparation and tools: factors that in turn have accentuated the inequalities between the gifted and the deprived, very often leading the latter to drop out of school.

Today it seems clear that education and learning will benefit from blended learning, combining online and in-presence dimensions. Social equity will have to be ensured and resilience built to respond to crises. Based on the lessons learnt during the COVID-19 pandemic, this comprehensive approach is a guideline to address the issues of social inclusion of vulnerable groups, diversity and active ageing.

From the outset, the switch from face-to-face to distance learning was presented and legitimised as an extraordinary measure to limit contagion, implemented by institutional authorities with the strong approval of virology and health experts. The initial success of distance learning from both students and lecturers' sides was certainly due to the long history of this kind of way of learning.

In many countries, the implementation of distance learning was immediate due to the numerous precedents and the already experienced conditions of need, while in other countries, due to lack of resources, economic conditions and inexperience, adapting to distance learning was more difficult.

Today, therefore, it is necessary to enable school personnel to move from a transmissive type of teaching to an active one, promoting digital environments, practices, methodologies and tools that support and complement the realisation of new educational paradigms both at a distance and in presence.

This could be incorporated into the so called Integrated Digital Didactics which means a teaching and learning methodology that integrates the traditional school experience with the online experience, thus avoiding offering a mere transposition of what is didactics in presence. The difference with distance learning lies in not having only online lessons. The DDI method allows us to build on the good practices that have been adopted by teachers and professors in times of lockdown and to implement them to offer an enhanced and engaging learning experience, in order to be able to face this third school year still affected by the pandemic in the best possible way.

The pandemic and the dynamics associated with it have made it even more evident that education is one of the expressions of the state and institutions within the territory, which is why there is a need to open up the school with a training and educational offer that networks with associations and businesses. It is no longer possible for schools to be a stand-alone entity fossilised on purely traditional teaching methods, but strongly needs the enhancement offered by digital culture.

The hope is therefore that the extension of e-Learning, due to the emergency situation, will not be wasted, but seen as an opportunity for growth to build new learning methodologies that are more inclusive and responsive to the needs of 21st century society.

The focus on life skills to empower adults to learn and participate in education should be centred on the issues of improving skills and retraining for work and life, the relevance of basic skills and the urgency of digital literacy and health, especially in light of the emerging evidence from the pandemic.

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CHAPTER VI

HOW DOES RURAL ENTREPRENEURSHIP CONTRIBUTE TO ENHANCE EMPLOYABILITY?

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ABSTRACT:

In rural regions, where traditional economic activities dominate and job opportunities are usually scarce, entrepreneurship constitutes a promising solution, due to its great potential to revitalize the employability landscape and promote local development. This chapter is dedicated to exploring the unique challenges and opportunities that entrepreneurs face in rural areas, as well as analyzing how rural entrepreneurship can deeply influence the employability in these areas. Additionally, this chapter presents a practical example taken from the Erasmus+ KA2 project *CRxSiSS – Comparing Resources for Subjects in Severe Situations*, specifically from one of the seminars whose main objective was to provide the educators and participants with the essential tools, skills and perspectives needed for establishing successful rural enterprises that contribute to enhancing employability in these regions.

Keywords: Rural Entrepreneurship, Employability, Adult Education.

1. RURAL ENTREPRENEURSHIP: AN OVERVIEW OF THE MAIN CHALLENGES AND OPPORTUNITIES

Throughout history, rural enterprises have often been seen as less innovative and having lower growth prospects when compared to their urban counterparts. This perception is rooted in various factors that are intrinsic to rural areas and in the unique challenges they face.

One significant factor contributing to this perception is the limited access to resources that rural businesses typically encounter – namely financial capital and technology. Considering the relatively smaller size and less developed nature of rural economies, obtaining enough funding can be more challenging for rural entrepreneurs – investors tend to be interested in businesses with high growth potential or larger companies located in urban areas (Schmerber, Tönnesson and Veliste, 2020:4-5). Additionally, due to their location, the availability of advanced technology and infrastructure may be lacking in rural regions, preventing the adoption of innovative practices and, therefore, limiting their potential for growth (Ibid.).

Another critical aspect to consider is the relatively smaller and less diverse markets that rural enterprises serve. Due to the reduced population density in rural areas and to their distance from the main markets, the customer base for rural enterprises is usually narrower. This market limitation can have an impact on the competitiveness of rural enterprises, as they often have to resist the large-scale industries with greater established market presence and economies of scale – and thus their ability to explore diverse business opportunities is limited (Carrizo Moreira, 2011:20).

Attracting and retaining skilled professionals is another major challenge. This sector of a population typically resides near the universities in the urban areas, where they have access to abundant networking and professional development opportunities, deemed as essential for advancing their careers and staying updated with industry trends (Schmerber, Tönnisson and Veliste, 2020:5). Moreover, since rural areas tend to lack certain urban infrastructures and services, as well as cultural and social opportunities that people value for a high quality of life, the absence of such amenities in rural regions may deter skilled professionals from settling there, because they might perceive it as compromising their personal and professional lifestyles.

Even if rural enterprises attempt to address the challenge of accessing skilled professionals by searching for talent locally, they often encounter hurdles related to education and skill development. On the one hand, the proportion of older residents in these regions tends to be higher than the proportion of young people, which usually results in less younger individuals entering the workforce; on the other hand, the workforce in these areas may have fewer opportunities for formal education and training, resulting in potential skill gaps among the local workforce and, therefore, leading to a perception that these enterprises lack the expertise and adaptability needed to compete in dynamic and fast-evolving markets.

It is also worth mentioning that the traditional social, economic and cultural composition of rural regions can significantly hold back entrepreneurship and local development. The lack of diversified economic activities in the rural areas, dominated by traditional agricultural practices and resource extraction creates a cultural environment that tends to resist risk-taking and change, and poses challenges for entrepreneurial diversification (Carrizo Moreira, 2011:20).

Unsurprisingly, promoting rural entrepreneurship doesn't rely exclusively on the existence of entrepreneur individuals in a certain area: it is intrinsically connected to the business environment, defined by Redman as the set of interconnected factors that stimulates innovation, promotes risk-taking capacity and the emergence and growth of new enterprises (2011:17). Such factors refer both to the internal conditions of the business (related with the skills of the entrepreneur and the structure of the business), but also by the external, broader socioeconomic context in which the business operates (Ibid.).

Despite the above-mentioned challenges and obstacles, it is essential to recognize two key ideas. Firstly, the rural world has unique characteristics that can be highly beneficial in the field of entrepreneurship. Among other examples, it should be mentioned that, because the social bonds in the rural areas are usually stronger, the existing sense of community can contribute to create a supportive environment for entrepreneurs to grow their businesses. Furthermore, the cost of business operations is generally lower in rural areas, which may allow the entrepreneurs to operate more efficiently and competitively. Additionally, the easy access to natural resources allows entrepreneurs to get cheaper raw materials (as they don't have to pay for transportation costs), but also with greater environmental awareness.

The second idea is that, as the world evolves, entrepreneurs are finding ways to navigate the challenges and coming up with appropriate solutions. For example, the rise of digital technologies, internet connectivity, and e-commerce platforms has significantly reduced geographical barriers, enabling rural entrepreneurs to tap into markets that were previously inaccessible. Access to information and knowledge sharing is also easier nowadays, because the internet not only facilitates networking and collaboration with suppliers, partners, and industry experts, but also opens up opportunities for accessing learning resources, sharing information, exchanging ideas, and gaining insights into industry trends, and thus empowering them to stay competitive and adaptable.

2. THE POTENTIAL IMPACT OF RURAL ENTREPRENEURSHIP ON EMPLOYABILITY

While attracting and retaining skilled professionals has long been recognized as a major challenge for rural enterprises, it is relevant to explore the immense potential of rural entrepreneurship as a catalyst for employability in rural areas, with the capacity to create a profound contagion effect on the local workforce and the entire community.

Through the establishment and growth of rural businesses, entrepreneurs pave the way for creating new jobs – with a direct and evident impact on employability. Such an influx of job opportunities absorbs a portion of the local workforce and therefore benefits directly the local community: the local unemployment rates decrease and the individuals have the chance to hold a secure, stable job.

The influx of jobs tends to trigger an increase in local consumer spending, improving the overall quality of life for the residents of the region. Having access to a regular income allows the individuals not only to meet their basic needs, but also instills a sense of stability that allows them to use money to fulfill other needs that, whilst not at the top of the Maslow's hierarchy of needs, are essential to increase their well-being. As a result, not only the local economy becomes more dynamic, contributing thus to the social upliftment in rural areas, but it is possible to witness the economic diversification of the region, which contributes to reducing dependency on a specific industry and strengthens the resilience of the economy against market fluctuations.

The employment opportunities generated by rural entrepreneurship can also be valuable tools in changing the traditional migration patterns from the rural areas to the urban centers, as they contribute to increasing the attractiveness of these areas. As more individuals are incentivized to invest their skills and talents locally, they can choose to remain or return to their hometowns.

Another important aspect to highlight is the development of skills among individuals living and working in rural settings. Especially when individuals start working in rural enterprises, they are often required to develop a set of skills and abilities that not only have significant value in their workplace, but can also open doors to more promising career prospects in the future – and therefore empower them to adapt and grow professionally.

That being said, how to maximize the potential of rural entrepreneurship as a vehicle for employability in rural areas and, at the same time, overcome the obstacles associated? The answer is as complex as the problematic itself and requires a broad and multidimensional approach. It might include multiple factors, from embracing the technological advances in order to increase competitiveness of rural enterprises, facilitating the access to microcredit programs and financial schemes adapted to rural to provide support to the business growth, encouraging local partnerships and collaboration between local governments, private institutions, non-governmental organizations and other institutions, or promoting the establishment of incubation centers and co-working spaces in rural areas, that can provide a supportive and collaborative space for entrepreneurs to network and collaborate with each other. Politics itself also plays a significant part, because supportive governments can provide essential incentives, financial assistance and regulatory frameworks that facilitate the growth of rural businesses.

Nevertheless, the role of education takes center stage in this chapter, being a key aspect that we want to highlight. On the one hand, integrating entrepreneurship education into the rural school curriculum proves to be particularly important: by introducing subjects that cultivate creativity, critical thinking, problem-solving and business insight, educational institutions assume a central role in promoting an innovative and entrepreneurial spirit in the minds of rural youth and in empowering them to potentially navigate the challenges of the business world.

On the other hand, since formal education alone may not be enough to equip individuals with the tools to navigate the complexities of rural entrepreneurship, the non-formal education initiatives in this field must be supported. Emphasizing practical approaches such as training programs, workshops, and hands-on activities can play a significant part in developing essential skills and boosting the confidence required to establish businesses in rural areas. These non-formal education initiatives complement formal learning, enabling potential entrepreneurs to

bridge the gap between theoretical knowledge and real-world application.

3. PROMOTING AN ENTREPRENEURIAL MINDSET: CRxSiSS PROJECT

As part of the CRxSiSS Project, a KA2 project under the Erasmus+ Program, a Course for Teachers was conducted in Kranj, Slovenia, from the 20th to the 24th of June 2022. One of the main topics of the Course was "Entrepreneurship in rural areas as an enhancer of employability" and it aimed to equip teachers with valuable insights and knowledge, as well as to inspire and empower these educators to develop with entrepreneurial skills and mindsets in their students, in order to promote innovation and creativity among the next generation.

Image 1. A group of participants engaged in the discussions during the seminar on the topic "Entrepreneurship in rural areas as an enhancer of employability", within the framework of the CRxSiSS Project.



The course was conducted in a non-formal education context, offering a flexible and practical learning approach. Engaging discussions took place during lectures, exploring significant concerns impacting rural areas, such as unemployment, migration to big cities, the challenges posed by an aging population, and the role of politics in rural development. The active participation of the group, as well as their willingness to learn and to share different perspectives on this topic, enriched the conversations. They had the opportunity to think through the potential solutions that entrepreneurship can offer to address these challenges and to give wings to their imagination.

To complement the theoretical sessions in the non-formal training context, there were different practical exercises and interactive games that aimed to challenge the participants' thinking and unleash their creativity and entrepreneurial spirits. In the paper clip game, for instance, the facilitator challenged the participants to form groups and create a company using only 6000 paperclips, without any monetary assistance. This game was conducted within the non-formal education realm, with the objective of discovering innovative ways to make the paper clips profitable and generate revenue. Working collaboratively in groups, the smaller groups explored various ideas and brainstormed creative solutions to make the most out of their

paperclip capital. The game not only fostered teamwork and collaboration but also encouraged out-of-the-box thinking. As the groups brainstormed and experimented with different product ideas, such as producing statues or keychains with the paperclips, they understood the importance of embracing risk-taking and adapting to unforeseen challenges - crucial skills for aspiring entrepreneurs. Moreover, this game instilled a sense of problem-solving, as the participants had to create a comprehensive business plan to optimize their earnings.

Image 2. The paperclip game: One of the teams presenting their business plan for establishing a company during the seminar on the subject “Entrepreneurship in rural areas as an enhancer of employability”.



Image 3. The paperclip game: Another team presenting their business plan as part of the same challenge.



Image 4. The paperclip game: A third team also presenting their business plan.



Another challenge presented during the course involved creating a rural company. As a non-formal education activity, it encouraged participants to think beyond the product they wanted to produce and consider the broader aspects of entrepreneurship. Working in groups once again, the participants were given the task to evaluate the needs, available resources, potential risks, and opportunities related to the creation of the business. To accomplish this, the participants were introduced to essential tools such as the SWOT analysis and, through hands-on implementation of this analysis, the group gained practical experience in evaluating their company's internal and external environment.

Image 5. Creating your own rural company: One of the groups thinking about the potential risks and opportunities of creating a particular company in a rural setting.



Image 6. Creating your own rural company: Another group working on the task of creating their company in a rural setting.



4. CONCLUSIONS

Historically, rural enterprises have been viewed as less innovative and with less potential for growth compared to those in cities – a perspective that is rooted in factors such as the limited access to resources that rural businesses often face, the relatively smaller and less diverse markets that rural enterprises have access to, or the difficulties in attracting and retaining skilled professionals (and the challenges associated with skill development, in general). Despite these challenges, not only rural areas have unique characteristics that can benefit entrepreneurship, but entrepreneurs are adapting to the changing world and learning how to take advantage of such features.

That being said, by establishing and growing rural businesses, entrepreneurs can create new job opportunities, lowering local unemployment rates and improving residents' quality of life. The influx of jobs leads to increased consumer spending and economic diversification, reducing dependency on specific industries and improving the resilience of the local economy. Moreover, rural entrepreneurship can reverse traditional migration patterns, attracting skilled individuals to invest their talents locally and potentially encouraging them to stay or return to their hometowns. In order to maximize the potential of rural entrepreneurship for employability, it is thus crucial to adopt technological advancements to boost competitiveness, facilitate access to financial support like microcredit programs, and foster collaboration between various stakeholders, including local governments, private institutions, and non-governmental organizations.

Education, in particular, plays a crucial role in empowering aspiring entrepreneurs. Integrating entrepreneurship education into the rural school curriculum can instill an innovative and entrepreneurial spirit in young minds. However, formal education alone may not be sufficient to equip individuals with the necessary tools for rural entrepreneurship: supporting non-formal education initiatives, such as practical training programs and workshops, can bridge the gap between theoretical knowledge and real-world application, encouraging the development of essential skills and confidence among potential entrepreneurs.

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CHAPTER 7

EMPOWERING LIFELONG LEARNING FOR ENVIRONMENTAL PROTECTION, SUSTAINABLE DEVELOPMENT, AND RESPONSIBLE CONSUMPTION – BEST PRACTICES FOR A SUSTAINABLE FUTURE

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ABSTRACT:

The goal of the training activities was to raise the awareness among the participants of the joint staff training events and the blended mobility for adult learners about the importance of lifelong learning for environmental protection, sustainable development, and responsible consumption. To this end, each event comprised a mixture of lectures and excursions to Slovenian best practice examples.

Keywords: environmental protection, sustainable development, and responsible consumption, best practice examples

1. DIDACTIC BACKGROUND

In the face of unprecedented global challenges such as climate change, resource depletion, and social inequalities, environmental protection, sustainable development, and responsible consumption have emerged as fundamental needs of contemporary society. Lifelong learning for adults and the elderly is instrumental in addressing these interconnected issues, equipping individuals with the knowledge, skills, and values required to foster a sustainable and equitable future.

As Slovenian partner in the CRxSiSS project, we have aimed to respond to these fundamental needs by promoting, during four training activities for teachers and students, the exchange of knowledge and experiences at a transnational level.

The preparation of the trainings which will be presented in detail in the second part of this chapter was structured around the significance of environmental protection, sustainable development, and responsible consumption as critical needs. We intended to demonstrate to the participants of the seminars for the exchange of good practices and of the structured courses a number of best practice examples how private and commercial initiatives can empower adults to be active agents of change in shaping a better world for current and future generations.

The training activities were designed to include the most important aspects of environmental protection, sustainable development, and responsible consumption and comprised the following learning objectives:

1.1 Understanding Environmental Challenges:

Climate Change: Increasing global temperatures, harsh weather, increasing sea levels, and the devastation of ecosystems are all results of climate change, the defining challenge of our time. Its effects are felt all around the world, particularly in places with fragile economies, populations, and/or ecosystems. Heatwaves, harsh weather, and the

development of infectious illnesses are all made worse by climate change, which poses serious risks to public health.

Biodiversity Loss: The rapid extinction of species can be directly attributed to human actions like deforestation, habitat damage, and pollution. Ecological balance, ecosystem services, and the continuation of life on Earth are all in jeopardy as a result of biodiversity loss.

Pollution: Pollution from industrial activities, transportation, and waste disposal poses severe health risks to humans, including respiratory diseases, cancers, and waterborne illnesses.

Resource Depletion: Population increase and wasteful consumption habits are threatening the world's water supply, farmland, and energy supplies. This creates serious threats to food safety, energy independence, and economic security..

Preserving Ecosystems: Clean air and water, fertile soil, pollination, and a stable climate are just a few of the many important services provided by healthy ecosystems. These are absolutely necessary for human life, health, and economic growth. Degradation of the environment causes disruptions in ecosystems, which weakens their ability to recover from disasters and offer vital services. To ensure that future generations have access to vital ecosystem services, environmental protection efforts prioritise ecosystem restoration and conservation, biodiversity promotion, and habitat preservation.

1.2 The Concept of Sustainable Development: Balancing Environmental, Social, and Economic Well-being

In light of the complex web of threats to the well-being of present and future generations, sustainable development has arisen as a crucial need in modern society. The goal of sustainable development is to maximise material well-being while also improving social conditions and protect-ting natural resources.

Balancing Economic Prosperity and Environmental Protection: Ecological degradation and socioeconomic inequality result when conventional growth models put economic development ahead of long-term sustainability. Environmental destruction, poverty, and abuse of marginalised groups are all consequences of development that is not sustainable. Short-term economic advantages are typically prioritised over the effects on future generations and the environment.

The goal of sustainable development is to create a society where economic and social development are compatible with protecting the planet. Sustainable development encourages moving towards a circular economy in which resources are used effectively, trash is kept to a mini-mum, and goods are made to last and be recycled. As the number of environmentally concerned consumers continues to rise, it is imperative that businesses adopt sustainable practises to ensure their continued success.

Sustainable development promotes inclusive economic growth and ensures that all people have access to fundamental services like education and healthcare in order to eliminate poverty and minimise disparities. It gives those who have the least to gain the most from development initiatives and ensures the inclusion of vulnerable and marginalised groups in decision-making processes.

1.3 Responsible Consumption: A Path to Sustainable Living

As the negative effects of irresponsible buying habits become more obvious, responsible consumption has arisen as a pressing social issue. The ecological, social, and monetary systems are all affected by the choices we make in the production, acquisition, and consumption of commodities and services. To practise responsible consumerism is to make deliberate decisions that benefit both the environment and society. It prompts people to think about how their purchasing decisions may affect society and the environment.

Ecosystems are disrupted and natural resources are depleted due to human activities such as pollution, deforestation, and habitat destruction. Frequently high levels of consumption are the primary driver of greenhouse gas emissions, which in turn worsen climate change and its devastating effects on the world's weather, crop yields, and ecosystems. Rapid species extinction is a direct result of humankind's wasteful consuming habits, which in turn have disrupted ecosystems and reduced the planet's ability to supply essential ecosystem services. Human rights violations and other forms of social inequality are only sustained through exploitative production practises and supply chains.

Ethical purchasing behaviour includes favouring brands that support legitimate employment standards, human rights, and material sources. Investing in locally owned and operated enterprises has been shown to have positive effects on community empowerment, economic growth, and preservation of cultural traditions. Consumption that is socially responsible takes into account the effects of production on people and works to eliminate injustice and improve working conditions. It gives people the tools they need to become conscientious shoppers who insist on corporate open-ness and responsibility.

The circular economy is one in which materials are used effectively, trash is kept to a minimum, and durable, recyclable goods are produced. Corporate social responsibility and economic stability can both benefit from consumers being encouraged to make more sustainable purchasing decisions.

The design of the training sessions especially took into consideration the fact that adult learners possess accumulated knowledge, experiences, and perspectives, making them valuable contributors to sustainable development. Their active engagement is essential for fostering intergenerational cooperation and ensuring knowledge transfer. They could become Agents of Change and advocates for environmental protection, sustainable development, and responsible consumption. As informed individuals, they can drive sustainable practices at local, regional and national levels, influencing policy and driving transformative change.

2. SHORT-TERM JOINT STAFF TRAINING EVENT

The event took place from 20th to 24th June 2022 in Kranj, Slovenia. It included lectures from GEA (which will be presented below) and from the Portuguese partner IAFA. GEA organized the excursions to good practices.

2.1 Lecture: Food and our cognitive abilities

Environmental toxins which are also found in food have a great impact on the brain and our cognitive abilities: The lecture pointed the following effects: which should be taken into consideration:

Nutrient Density: Eating clean, or a diet that places an emphasis on whole, minimally processed foods, has been shown to have beneficial effects on cognition. Although research on the correlation between diet and brain health is still in its infancy, mounting evidence suggests that eating well can improve several measures of mental acuity. The lecture outlined how eating well can improve our brainpower:

Improved Brain Structure: Clean meals are high in beneficial elements such vitamins, minerals, antioxidants, and omega-3 fatty acids, and this is due to their nutrient density. These nutrients play an important role in brain health and may help with reasoning and memory. Nutrients like omega-3 fatty acids (found in fatty fish like salmon and walnuts) are crucial for the formation and upkeep of brain cell membranes, leading to improved brain structure. They improve neuronal connections and stimulate cell division in the brain.

Stable Blood Sugar Levels: They can be maintained by eating a diet rich in clean foods, particularly complex carbs like those found in whole grains and legumes. This aids in keeping energy levels consistent, prevents mental slowdowns, and stabilizes blood sugar.

Antioxidants and Anti-Inflammatory Properties: Clean meals are frequently high in antioxidants like vitamins C and E, which can shield brain cells from oxidative stress and lower inflammation. Decreased mental capacity has been linked to persistent inflammation.

Gut-Brain Connection: The gut and the brain are intimately connected, and eating right can help keep both in harmony. New evidence reveals the gut-brain axis is critically important to brain function. There may be a link between a well-balanced microbiota in the stomach and good mental health.

Enhanced Memory and Learning: Certain meals, such as blueberries and leafy greens, have been associated with enhanced memory and learning. Synaptic plasticity and the development of new neurons may both be aided by the substances found in these diets.

Mood Regulation: The risk of mental health problems like sadness and anxiety can be mitigated by maintaining a healthy diet. The state of one's mind has direct effects on one's ability to think clearly.

Reduced Risk of Cognitive Decline: A lower risk of cognitive decline with age and of neuro-degenerative disorders like Alzheimer's has been linked to eating cleanly, specifically the Medi-terranean diet.

Better Sleep Quality: Quality sleep is critical for learning, remembering, and problem solving, and a diet high in whole, healthy foods may help improve sleep quality.

Balanced Energy Levels: Concentration and mental stamina are both boosted by maintaining a steady supply of clean energy throughout the day.

It's important to note that while clean eating can enhance cognitive abilities, it is just one component of a healthy lifestyle. Regular physical activity, adequate sleep, stress management, and cognitive stimulation also play crucial roles in maintaining and enhancing cognitive function.

2.2 Excursions

2.2.1 Guided tour old market town Radovljica

Local producers provide Radovljica's restaurants with fresh produce, which talented chefs turn into exceptional dishes. The range of cuisine in Radovljica and its surroundings, which has long been considered as being of the finest quality and authentic, is based on the preparation of tasty dishes that best reflect the producers' healthy, raw ingredients. The restaurants offering local ingredients are united under the Taste Radol'ca association. Four of the restaurants in the Radol'ca area have been awarded the Green Cuisine Label (Gostišče Tulipan, Hiša Linhart, Gostišče Kunstelj and Gostišče Draga), which is recognition of their sustainable endeavours.

In addition to locally produced food, you can buy numerous handicraft products in Radovljica and the surroundings. In the old town centre, in addition to restaurants and coffee shops, there are some local artisans, who offer products made from ceramic, leather, felt and other materials. There are plenty of interesting local products available at the Radovljica Tourist Information Centre, the Pharmacy and Alchemy Museum and the Museum of Apiculture.

More information: <https://www.radolca.si/en/blog/a-sustainable-visit-to-radovljica#>

image 1: Radovljica



Source: Radovljica Tourist Board

2.2.2 Re-use center Kranj

The excursion visited to two initiatives which operate shops for re-used materials.

Štacuna Zarica is located at the Komunala Kranj Collection Centre on Zarica. In this store, citizens can drop out items that they no longer need, but that are still useful or in need of minor repairs and are suitable for reuse. In the store they can buy secondhand items.

Kr'Štacuna: In this store people will find beautiful upcycled objects, second-hand items that have been attractively restored. By purchasing them, they will also contribute to the development of social entrepreneurship in Slovenia, to the reduction of waste through re-use and to the creation of new, environmentally friendly jobs for vulnerable groups. They are the ones who were able to breathe new life into these objects and they can also restore people's furniture.

Image 2: Štacuna Zarica



Source: Fundacija Vincenca Drakslerja

2.2.3 Zero waste

The group visited the first European Zero Waste Ribno Alpine Resort in Bled, Slovenia.

The main goal of the Zero Waste commitment is to reduce the amount of waste generated and prevent harmful releases to land, water, and air that could endanger the health of ecosystems, humans, animals, or the planet.

Zero Waste is a commitment that leads society to change lifestyles and habits and to emulate sustainable natural cycles, where all waste materials are the raw material for someone else – One man's trash is another man's treasure!

“More and more people want to spend their holidays in a sustainable way, and the certificate is a seal of excellence for tourism providers who prove that they offer this option. Ribno Alpine Resort has inspired thousands of tourists, students and waste management professionals with its ambition, leadership and daily implementation of waste reduction practices. It undoubtedly deserves the Euro-pean Zero Waste Business Certification. They are living proof that zero waste holidays are possible and enjoyable”. Statement of Kaisa Karjalainen, Head of Mission Zero Academy, under the auspices of Zero Waste Europe.

The hotel and glamping provides high-quality services for their guests' comfort and the comfort of nature. The management is on the path of separating 90% of the entire hotel's waste, generating 30% less annually, and consuming 30% less water and energy.

Image 3: Ribno Alpine Resort



Source: Ribno Alpine Resort

More information: <https://www.hotel-ribno.si/zero-waste/>

2.2.4 Biotechnical center Naklo

Biotechnical center Naklo is a quality educational, research and development institution that puts at the forefront a sense of nature, care for the production and processing of healthy food and care for the orderliness of the environment in cooperation with the economy.

The center promotes entrepreneurship and innovation and takes care of personal development and a friendly working environment of our employees.

Research and development work of researchers comprise management of research projects that contribute to greater competitiveness of the institution, research and development of rural potential, transfer of achievements and findings from research projects into practice (applied projects), development of new technologies and products, and increasing the interest of teachers/lecturers and young people in research work, as well as knowledge transfer.

More information: <http://www.bc-naklo.si>

3. BLENDED MOBILITY FOR ADULT LEARNERS

The event took place from 19th to 23rd September 2022 in Velenje, Slovenia. It included lectures from GEA (which will be presented below) and from the Portuguese partner IAFA. GEA organized the excursions to good practices.

3.1 Lecture: Renaissance of the mind: Communicative ecology

The term "communicative ecology" is used to describe the interconnected web of institutions, technologies, and norms that govern the dissemination of information and ideas in any given community. Since effective communication is vital to increasing awareness, mobilising action, and attaining the SDGs, communicative ecology has a substantial effect on these goals. Through its influence on information dissemination, community engagement, and the building of partnerships to tackle global concerns, communicative ecology significantly contributes to sustainable development.

Figure 1. Sustainable development goals



Source: GEA, Institute for Psychosocial Counselling and Social Innovation

Spreading Knowledge and Understanding (SDGs 4, 5, 6, 13, 14, 15): Communicative ecology includes teaching, the media, and sharing knowledge. Advocating for gender equality (SDG 5), access to clean water and sanitation (SDG 6), climate action (SDG 13), and the protection of marine and terrestrial ecosystems (SDGs 14 and 15) are all possible outcomes.

Reducing Inequalities (SDG 10): This goal aims to reduce disparities both within and between nations. This goal cannot be achieved without universal access to information and communication technologies (ICTs). By enhancing the communicative ecosystem, we can help underserved communities cross the digital divide and get access to previously inaccessible services, information, and opportunities.

Partnerships (SDG 17): Building and deepening global partnerships for sustainable development relies heavily on clear and open lines of communication. By lowering barriers to information and knowledge sharing, "communicative ecology" encourages cooperation between governmental bodies, non-governmental organisations, businesses, and local communities.

Health and Well-being (SDG 3): Its aims is to "ensure healthy lives and promote well-being for all at all ages." Communicative ecology contributes to this goal through distributing knowledge about healthcare, disease prevention, and healthy lifestyles.

Zero Hunger (SDG 2): Through the dissemination of information about sustainable agriculture, food security, and nutrition, communicative ecology can aid in the achievement of this Sustainable Development Goal.

Clean Energy and Infrastructure (SDG 7, 9): Communicative ecology's ability to disseminate information on renewable energy sources and sustainable transport solutions contributes to both goals.

Quality Education (SDG 4): This g focuses on ensuring that all children have access to a high-quality education.

Life on Land and Below Water (SDG 14, 15): Through education and outreach, communicative ecology may promote the preservation and responsible use of terrestrial and marine ecosystems.

Decent Work and Economic Growth (SDG 8): Effective communication within the business community can promote decent work and economic growth by facilitating knowledge sharing and responsible business practices.

Peace, Justice, and Strong Institutions (SDG 16): This goal emphasises the importance of establishing and upholding institutions that promote peace, justice, and inclusiveness.

Climate Action (SDG 13): Through the dissemination of knowledge on climate change, mitigation techniques, and adaptation measures, communicative ecology plays a crucial role in promoting climate action.

Ultimately, communicative ecology can affect the attainment of all SDGs by promoting public involvement, awareness, and informed decision-making.

3.1 Excursions:

3.1.1 Forest pedagogy

The Slovenia Forest Service is a public institution, established by the Republic of Slovenia, which performs public forestry service in all Slovenian forests, irrespective of ownership. Its tasks and activities are connected with all fields of forest management on the national, regional and local levels: forest management planning, monitoring of forests, silviculture and forest protection, use of forest technologies, construction and maintenance of forest roads, monitoring of wild animal populations, hunting, forestry extension service for forest owners, research work, rural development activities, raising awareness and the education of forest owners, the general public and youth. The Slovenia Forest Service does not perform any felling, extraction, transport and selling of wood, nor forest trade.

With approximately 730 employees, mostly forestry engineers, the Slovenia Forest Service is the largest forestry institution in Slovenia and a forestry institution of European importance. We operate by the principles of the Slovenian forestry school, planning and monitoring the implementation of sustainable, close-to-nature and multifunctional forest management. Our motto is: "Preservation and close-to-nature development of Slovenian forests and of all their functions for their sustainable and good management and use as well as nature conservation in forest space for the good of present and future generations."

The excursion group also received information about a brochure for citizens how to behave in a forest.

Figure 2: Brochure “Caring for the forest”



Source: Vodstvo ZGS

3.1.2 Eurofins ERICo Environmental Research Slovenia d.o.o.

30 years ago, an ecological group of six young researchers started operating in Velenje, under the auspices of the then Mining and Electric Power Combine. This was the beginning of the ERICo Velenje institute's journey, which employs 2017 people in 45 and is one of the most important co-creators of developments in the field of environmental protection in the Šaleška valley and is growing in Slovenia, and also operates in the territory of the countries of the former Yugoslavia. It expands its circle of operations primarily by constantly raising the quality.

Eurofins is the umbrella group of the world's leading food and feed laboratories. Its range of services includes the most demanding analytical methods to maintain an edge over the competition. In our own network of laboratories, we carry out more than 150 million analyses per year in the food field, plus other processes such as food declaration and traceability.

Eurofins is trusted by world-renowned manufacturers such as Nestle, Coca-Cola, PepsiCo, McDonalds, Kellogg's... and in the retail sector, their partners include Aldi, Lidl, Walmart, Tesco and others.

The excursion brought the participants to the Velenje Lakes which are the results of the coal mining in the valley. In the 1970ies, the water was heavily contaminated, before ERICo's researchers started to decontaminate the site. Now the lakes are popular recreation areas.

More information: <https://www.eurofins.si/>

3.1.3 *Mysteries of sunken villages*

The group undertook an authentic tour of The Coal Mining Museum of Slovenia in Velenje. The programme comprised to help a descendant of the Velenje miners, who mined one of the thickest layers of coal in the world and turned fertile fields into lakes, find a precious item under the water surface. Where once were villages, now are lakes. What happened to the houses, schools, and churches? Why did they sink, and where did the villagers go? What secrets can be uncovered in the depth of the lake? The groups discovered the bitter-sweet life stories of the villagers, miners, and Velenje people. For their bright future, they mined coal but sank their past.

The stories were told by a grandson of a Velenje miner. He took the visitors where everything began. The elevator lowered the participants into tunnels that are 160 meters deep. They saw how miners spent their days and what mining is today. Water covered villages in front of their eyes, and they sailed the depths that still keep treasures of miners' families.

Image 4: Coal mine museum Velenje



Source: Šalek Valley tourist board

When they returned, culinary delights awaited them accompanied by reflections of the land, still under the clean water of Velenje lake. To remember this unforgettable experience among sunken villages, participants also received a unique symbol of Velenje miners.

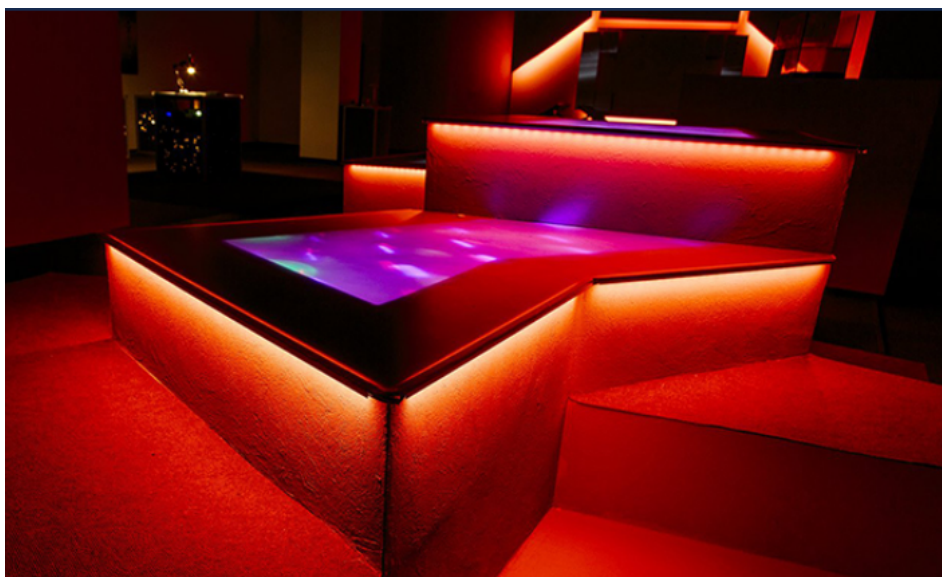
More information: <https://www.visitsaleska.si/en/products/mysteries-of-submerged-villages/>

3.1.4 *Pattern City*

Pattern City is an ecosystem for education, experimentation, prototyping and innovation. Our unique, interactive environment is focused on providing interdisciplinary content with learning-by-doing and playful learning methodologies.

Pattern City functions as a knowledge intersection and innovation generator for smart city stakeholders. In its essence Pattern City is RDI department of Ljudska Univerza Velenje and develops the methodology for interdisciplinary and transmedia storytelling. Pattern City finds correlations between various syllabuses and combines them into stories that are attractive for learning. Within 700m² of open space, it builds thematic interactive spaces and installations where all the magic of problem-solving, critical thinking and DIY happens.

Image 5: Pattern City



Source: PATTERN CITY

Pattern City provides insights into the age of Digital transformation and Industry 4.0. Under-standing and using new technologies has always been at the heart of Pattern City. It acts to stimulate knowledge and experience flow between stakeholders in the Knowledge triangle. On the strategic level, Pattern City collaborates with Ministries, education institutions and on the other side with industry.

3.1.5 *Tourism on the farm*

The group visited the Lamperček homestead leading through a typical Slovenian rural settle-ment, where traditional rural and suburban lifestyles coexist. It leads to a renovated but still primordial farm, where tradition of several generations and modern approaches meet. The Lamperček homestead is known for its 13-hectare large enclosure with about 130 deer, fallow deer and mouflons. In every corner of the yard there were antique tools, various rustic appliances and utensils that testify to life and work in the past century. Just before entering the old house with a room of hunting trophies, there is a view of the ruins of the Snake Castle.

Image 6: Valley of Mills



Source: Šaleška Valley Tourism Board

More information: <https://www.visitsaleska.si/sl/saleska-valley/izletniska-domacija-lampercek/>

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CHAPTER 8

INTANGIBLE HERITAGE AS A DRIVING FORCE FACING THE CHALLENGES OF THE 21ST CENTURY

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ABSTRACT:

Intangible Cultural Heritage comprises the "practices, representations, expressions, knowledge, and techniques - along with the instruments, objects, artifacts, and cultural spaces that are inherent to them - which communities, groups, and in some cases, individuals recognize as an integral part of their cultural heritage. This Intangible Cultural Heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, interaction with nature, and history, instilling in them a sense of identity and continuity, and thus contributing to promoting respect for cultural diversity and human creativity" (Art. 2.1. UNESCO: Convention for the Safeguarding of the Intangible Cultural Heritage, Paris 2003).

Aware of the values and risks of intangible cultural heritage in Andalusia, Tierra de Maestros, in collaboration with other institutions, has directed part of its efforts towards the safeguarding of intangible heritage through educational actions aimed at knowledge, valorisation, and promotion involving the older population.

In this article, we want to highlight the motivating power of using cultural heritage in educational contexts with adults, along with some actions that have been carried out.

Keywords: Intangible Cultural Heritage, Education, A.deEnredArte Project

1. INTANGIBLE HERITAGE AS A MOTIVATIONAL TOOL WITH ADULTS

Intangible cultural heritage stands out as a means of expression of societies, adding a wide range of colours to it. It represents an ideal resource for understanding the characteristics of our culture and immersing ourselves in an intangible journey where our senses are inundated in a collective imagination.

To justify its motivating power, we will rely on a triple perspective: as an emotional language, due to its characteristics, and as a source of energy.

Figure 1. Triple perspective the Intangible Cultural Heritage



Before delving into the explanation of the framework, we want to remind that for many authors, including Blacking, it would be a mistake to consider culture as an end and not as a means (2006).

a. Heritage as the language of emotions

It has a powerful impact on emotions, thereby fostering a better predisposition towards work and a conducive social environment.

b. Characteristics of heritage

People within their collective imagination tend to associate it with joy, attractiveness, playfulness; it involves a temporal dimension (as it is the art that evolves over time) and arouses curiosity.

c. Source of energy

Authors like Tomatis argue that hearing is designed to energize the brain and body (Waisburd and Erdmenger, 2007). The scientific explanation for this is that sounds provide us with energy (Tineo, 2003).

Based on the previous idea, musical sound heritage is among the areas with the least fatigue, making it an appropriate mediator between prior knowledge and new learning in any field.

2. CREATIVE PROPOSALS RELATED TO INTANGIBLE HERITAGE

As a result of these ideas and our interest in their inclusion in society, we consider creative proposals such as the A.deEnredArte Project necessary because, from a practical and digital perspective, they are a powerful engine for promoting knowledge.

In the challenges of the 21st century, it is vital to encourage active aging among our elderly, where they can become interactive agents in current education using their collective imagination. From this paradigm, it is important to use them as active agents in Community Learning strategies in classrooms.

To achieve the main objective of the project, some proposals that can be offered to adults include:

- ☐ Innovative methodological strategies to promote a more competent society capable of facing the challenges of the 21st century, with a special focus on rural learning environments.
- ☐ Art and heritage workshops as learning vehicles, using new methodologies and strategies focused on these areas of action.
- ☐ Educational events with regional agents such as the IAPH (Andalusian Institute of Historical Heritage) on educational intangible heritage and European institutions.

- Music festivals like "Al Son de la Subbética," where adult educational centres undertake educational projects related to the intangible heritage of their region.
- Recording of intangible heritage information among the rural adult population using Community Learning strategies.

Among the main characteristics that these digital workshops should possess are:

- Interactive and audiovisual.
- Pedagogical (with parallel educational resources) based on motivation and attractiveness.

With these proposals, we aim to address some of the challenges of the 21st century: active aging, the digital divide, the preservation of cultural heritage and rural abandonment, in order to develop an active and informed citizenry in response to these challenges of contemporary society.

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CHAPTER 9

PUBLIC HEALTH RESPONSE, ADJUSTMENT OF THE HEALTH SYSTEM, AND TAKING CARE OF VULNERABLE POPULATION GROUPS TO COVID-19 PANDEMIC IN SERBIA

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ABSTRACT:

The occurrence of new infectious diseases has caused important changes in the contemporary world, showing its vulnerability, and the necessity for the mobilization of all available resources for fighting against it. Unquestionably, health systems were bearers of activities in the suppression of infection, but some other segments of society have suffered the consequences, and activities have often required the engagement of more than one sector (Health, Economy, Education, and Defense). The reorganization of the work of health institutions, the introduction of new technologies in their work, and simultaneous research of the causes, effective therapies, and prevention (vaccine) of COVID-19 infections represented a complex challenge in which public health played a significant role as a coordinator and actor. By engaging its resources, it participated in the reduction of consequences of the pandemic, but also in the control of the spread of infection while taking care of all participants, from health and other workers in health institutions to sensitive population groups and the general population.

Keywords: Pandemic of COVID-19, Emergency Situations, Public Health

INTRODUCTION

Modern society is very vulnerable, as the COVID-19 pandemic has clearly shown. On the other hand, the cause of the COVID-19 pandemic showed the potential to spread rapidly and prompted the response of participants in public health, and health systems, but also other segments of society (economy, education, informing) that had to adapt to the new situation in a short period of time, and mutually coordinate the response to it (Lake, 2020). The Pandemic has brought major challenges to public health and healthcare, which have faced insufficient capacity, lack of protective equipment, appropriate therapies, and vaccines, as well as the need to reorganize healthcare delivery (Wahlster et al., 2021; Burki, 2020; Dargaville, Spann, Celina, 2020; WHO, 2020a, 2020b). The global problem required a quick and efficient exchange of knowledge, experience, and information. Given its broad scope, public health played a key role in connecting all participants in the response to the pandemic (Khamis et al., 2021). The activities were related to sensitive population groups, the general population, and employees in

healthcare institutions. (Daly et al., 2022; Khamis et al., 2021; Jovanovic et al., 2021; WHO, 2020c).

1. THE BEGINNING OF THE PANDEMIC AND THE PUBLIC HEALTH RESPONSE

Although there were reflections that the new infection with the SARS-COV-2 could take on pandemic proportions, one gets the impression that all segments of modern society meet it unprepared. The first cases of infection caused by an unknown virus appeared in Wuhan, China, in late autumn 2019, and the first cases of pneumonia of unknown etiology were reported in late December 2019. In Italy, the spread of the virus was confirmed on January 31, 2020, leaving the health system in Serbia a few months or weeks to prepare (WHO, detecting and suppressing the spread of the pandemic, reorganizing the work of the healthcare institutions, and protecting 2023a). In mid-January 2020, The World Health Organization published guidelines for the fight against the pandemic (WHO, 2023a), and on March 11, a pandemic was declared, after which a team was formed in Serbia at the national level, and soon after, a police hour in the whole country was declared (Jovanovic et al., 2021).

The appearance of the first cases of COVID-19 along with the lack of protective equipment affected Serbia as well as most countries, and the education of those hospitalized in healthcare institutions on the use of personal protective equipment (putting on, removing, disposing of) was carried out after the equipment was purchased. With the increase in the number of positives for COVID-19 and those who needed hospitalization, more and more hospitals became COVID hospitals (Jovanovic et al., 2021). Very quickly, three new hospitals were built to treat the most severe cases of COVID-19 infection. Vaccination, as the most effective measure to prevent infection and the development of a complex clinical picture, was available in Serbia in December 2020.

Despite all the measures and activities implemented at the global and national levels, the question arises whether the reaction to the pandemic, i. e. the emerging crisis of COVID-19, could have been faster (Daly et al., 2022). Experiences gained during the COVID-19 pandemic can help respond faster and more efficiently to a future pandemic. This implies the existence of a plan to respond to a crisis, mitigation, and preparation response to a crisis, recovery and return to mitigating consequences of a crisis, and preparation for future crisis situations (Todorovic et al., 2020). The use of all available resources, their appropriate planning, as well as the use of new technologies, proved to be a good strategy.

2. QUALITY OF HEALTH CARE DURING THE PANDEMIC

Continuous quality providing of health care represents the aspiration of health systems to increase the likelihood of desired health outcomes at the individual and population level, considering evidence-based knowledge (WHO, 2023b). The emergence of crisis situations made it difficult to achieve these goals, which was proven not so long ago. The Spanish flu (1918-1920) caused 50 million deaths, the Asian flu (1957-1958) and the Hong Kong flu (1968-1969) caused 1 million deaths, the Ebola virus (2014-2016) in West African countries caused 11, 000 deaths, outcomes (Braithwaite, 2022). The latest challenge for health systems and their resilience is the pandemic of Covid infection that appeared in 2019 and globally caused an increase in demand for health care (WHO; 2020b). Healthcare systems were adapted according to their capacities, practices, and possibilities (European Observatory on Health Systems and Policies, 2021). The pandemic developed rapidly, disrupting the existing plans of the Health Care System, often putting the organization of health care in the background behind politics or economics, which led to a decrease in the quality of health care, and some systems were pushed to the edge of their capacities (Braithwaite, 2022). Research has shown that in crises, the number of deaths increases not only from the diseases that caused the pandemic but also from other preventable diseases (smallpox, malaria, tuberculosis, HIV) (Parpia et al., 2016).

To preserve the quality of health care, the World Health Organization recommended the introduction of a simplified management system aligned with anti-covid protocols and the strengthening of basic health services with the aim of preserving the continuity of health care and the smooth flow of patients through all levels of health care to perform preventive, screening, and curative examinations, diagnostics and therapy. Staff reorganization and the provision and delivery of essential medicines and equipment are also included in the recommendation (WHO, 2020b).

Due to the reduction in the number of employees (engaged in the Covid system, infected with Covid infection), it was proposed to reduce the number of contacts of patients with health workers and to use alternative ways of providing services (working from home, telemedicine) to protect remaining staff, it is proposed to monitor illness, stress, and burnout syndrome among employees in health care institutions (WHO, 2020b). In Serbia, a national survey of the satisfaction of the employees in healthcare institutions is conducted every year, and from 2020, questions related to work in the conditions of the COVID-19 pandemic are also included. In the first year of the pandemic, more than half of employees in primary healthcare institutions (58.2%) in Belgrade worked in the Covid zone, and 43.6% in hospitals, which indicates a greater involvement of primary healthcare institutions in the fight against Covid. The following year, the engagement of hospitals increases so that the number of employees who worked in the Covid zone is higher (60.4%) compared to employees in primary health care (57.1%). In 2020 the biggest challenge for employees was working in protective equipment, working under new conditions, and uncertainty and fear of infection (IPHB, 2023). After one year, hospital employees identified exhaustion from working under protective equipment and the workload as the biggest challenges (41.9% of respondents and 41.5%). In primary healthcare institutions, the biggest challenge was working under new conditions and exhaustion from the workload (35.8% and 25.2%), (IPHB, 2023).

3. ORGANIZATION OF HOSPITAL WORK DURING THE PANDEMIC

The factor that largely determined the effectiveness of the fight against COVID-19 is stationary health institutions and their ability to respond to this emergency (Barbash & Khan, 2021). In this regard, thinking in two directions is imposed: provision of hospital care for patients with COVID-19 and provision of health care for all other non-Covid patients (HSRM, 2021). It is clear what kind of challenge healthcare institutions have faced if we think of all patients who need continuous health care, such as dialysis patients, oncology patients, etc. (Verma et al., 2020) or some particularly sensitive groups such as pregnant women. At the same time, these groups can get sick from COVID-19, which makes the situation much more complicated. It should be remembered that the pandemic has found health systems with significantly different resources. The number of hospital beds per 100,000 inhabitants in Serbia before the epidemic was 569, while in European countries it ranged between 145 and 792 (OECD, 2018). The number of hospital treatment episodes in Serbia was 145/1,000 inhabitants and in Europe between 553/1,000 and 346/1,000 (OECD, 2018). In Serbia, the health professionals to population ratio was 3.1/1000, and 6.1/1,000 respectively, while in Europe it varied between 1.2/1,000 and 5.5/1,000 for doctors, i.e., between 3.6/1,000 and 18/1,000 for nurses (WB, 2019).

Certainly, such significant differences had an impact on the possibilities of responding to the epidemic. However, given the nature of COVID-19 disease, most states used the same approaches-separating sick and suspected Covid patients from "non-Covid" patients and reducing services for "non-Covid" patients. (HSRM, 2021). The priorities for the mentioned reduction were determined based on medical indications, the severity of the health conditions, and the current epidemiological situation. Health services within emergency medicine, oncology, and services for pregnant women and childbirth are essential and their provision has not been interrupted (HSRM, 2021). All other services and elective interventions are postponed,

if necessary, in accordance with the current epidemiological situation. Certainly, such measures have their own significant negative consequence, such as, for example, the extension of waiting lists (Ousedik et al., 2021). Two additional approaches with the potential to facilitate the provision of hospital care in an emerging situation are telemedicine and the use of private hospital capacity (HSRM, 2021). In our country, there were only individual cases of turning to telemedicine, as well as using the capacities of private hospitals (HSRM, 2021).

In Serbia, initially, hospital care for Covid patients was provided within existing hospitals that were completely reoriented to treat Covid patients only (so-called Covid status) and temporary military hospitals (HSRM, 2021). Later, three Covid hospitals were built: in Belgrade and Krusevac, in December 2020, and in Novi Sad, in September 2021. Among existing hospitals, at least for a certain period, there were, in addition to tertiary-level institutions, general and special hospitals, including rehabilitation centers throughout Serbia (HSRM, 2021). In the capital city of Belgrade, almost all inpatient facilities were in Covid status for a certain period. The exception is the two largest inpatient facilities that continuously provided treatment for all non-Covid patients, as well as highly specialized pediatric, psychiatric, and gynecological facilities and facilities for the treatment of cardiovascular and oncological diseases, which continued to function within their activities (HSRM, 2021). In the Covid status, four Belgrade clinical and hospital centers functioned periodically, as well as some institutions that are highly specialized in the treatment of diseases significantly different from Covid, such as institutions for the treatment of orthopedic and rheumatological, diseases. Great adaptability was necessary for hospitals to function in such complex operating conditions. The COVID-19 pandemic showed that flexibility in all aspects (staff, space, equipment) is a very important feature for hospitals in emergencies. (Barbash& Khan, 2021).

4. HEALTH STAFF AS THE MAIN RESOURCES DURING THE PANDEMIC

Certainly, the health workforce, as one of the basic resources of health systems, and bearing in mind all the challenges it faces during the COVID-19 pandemic, deserves a special place. According to the Sixth European Survey of Working Conditions (Eurofund, 2017), even in "regular" circumstances stress levels among healthcare staff are higher compared to other sectors, but especially due to the high workload, emotional burden of caring for seriously ill, dealing with dissatisfied patients or their relatives, workplace violence (WHO, 2020c). During a crisis, such as the outbreak of a new infectious disease, health workers are exposed to additional sources of psychological stress-fear for personal/family health, overload, burnout and extreme fatigue, moral dilemmas, frequent witnessing of suffering and death, change of work environment, etc. (WHO, 2020c). According to Saleri et al. systematic review and meta-regression, the prevalence of depression, anxiety, and stress among doctors on the front line of the fight against COVID-19 is 40.4%, 19.8%, and 93.7%, respectively, which is higher than in studies conducted in other contexts (Saleri et al., 2020). The frequency of symptoms of depression, anxiety, and stress among general practitioners during the pandemic in Serbia was 37%, 31.7%, and 41.1% respectively (Tripkovic et al., 2021). Impaired mental health can negatively affect the work performance and willingness of healthcare workers to use their full potential and provide appropriate care. An effective response to COVID-19 includes preserving the mental health of healthcare workers, as one of the key elements of public health response to the crisis (WHO, 2021). Precisely because of this, the World Health Organization (WHO) has given a series of recommendations that include providing sufficient capacities for psychological support, as well as facilitating access to these services (WHO, 2020c). Early identification of health workers who are at high risk of developing mental problems is equally important as their timely diagnosis and treatment. Managers in health institutions should create favorable working conditions and stimulating work environment, which includes timely and accurate information, flexible schedules, and breaks, and encouraging communication and support among colleagues (WHO, 2020c). According to the Monitoring of the Health System Response to COVID-19 by the

European Observatory for Health Systems and Policies, 25 countries have introduced a number of measures to preserve the mental health of health workers during the pandemic (helplines, applications, and online services, guide, remote counseling, etc.) (HSRM, 2021). In our country, on the website of the Serbian Medical Chamber, there is a special section dedicated to the mental health of doctors, as well as recommendations for health workers in addition to the general guidelines for supporting mental health during the pandemic (SMC, 2020). Strengthening the resilience of the health system by developing a sustainable health workforce is necessary for an adequate response to future public health crises. Therefore, adequate psychological support for healthcare workers, as well as an assessment of the impact of implemented measures, should be provided not only during the pandemic but also in the long term.

5. PATIENT SATISFACTION IN PRIMARY HEALTHCARE INSTITUTIONS DURING THE PANDEMIC

Primary health care plays an extremely important role in the prevention, preparation, and response of the entire healthcare system to emergency situations and especially in ensuring access to basic health services for the population (Sarti et al., 2020; Larkins, Allard & Burgess, 2022). The opinion of patients is increasingly important in the process of improving the provision of health care and is considered an important factor in the decision on treatment and the provision of health services (Tomic, 2015). As every year, a patient satisfaction survey is carried out in healthcare institutions in Belgrade, voluntarily and anonymously in the services of general medicine, pediatrics, and gynecology, and includes a one-day population of patients who visited the doctor on the day of the survey (Republic of Serbia, 2010). In 2020, the satisfaction survey included 1,641 respondents, of whom 65.3% were women and 34.7% were men (average age 44.5 years) (IPHB, 2023). It turned out that the respondents were mostly satisfied with the health care provided to them in primary health care institutions in Belgrade, giving an average rating of 4.56 (on a scale of 1 to 5, where 1 is very bad and 5 is excellent). However, in 2020 patients most often had to postpone their medical examination due to the epidemiological situation with the COVID-19 virus, and that was more than half of the respondents (51.4%) (IPHB, 2023). The results of a survey also conducted during the pandemic show that postponing a doctor's visit mostly increased due to fear of COVID-19 and decreased with familiarization with the facts and situation related to the pandemic (Lai et al., 2021).

From the results of the research, it can be seen how great the impact of emergency situations such as a pandemic can be on the organization and provision of timely health care. The COVID-19 pandemic has imposed the need for coordinated epidemic response mechanisms, and digital solutions may be a promising response of the health sector to the challenges of emergency situations in the future (Isautier et al., 2020; Timmers et al., 2020).

6. IS COVID-19 THE ONLY ONGOING PANDEMIC? - GROUPS AT RISK, PREVENTIVE STRATEGIES, AND EXPERIENCES IN WORKING WITH THE ELDERLY

The rapid spread of the COVID-19 infection and the possibility of infecting people of all ages leave numerous consequences on their psycho-physical health, immediate and long-term, but they are more serious for certain groups, such as the elderly and/or those with existing chronic non-communicable diseases, such as diabetes, cardiovascular diseases, asthma, mental disorders (Džamonja Ignjatović, Stanković, & Klikovac, 2020; Milićević-Kalašić, Terzin & Gavrilović, 2021). The elderly represent a heterogeneous population; although old age is not a disease, comorbidity increases with age (WHO, 2020d).

At particular risk are marginalized, socially isolated, and vulnerable groups of people, such as migrants, women and children exposed to abuse, psychiatric patients, people with disabilities, and elderly people living alone or in institutional accommodation (WHO, 2020d; United Nations Department of Economic and Social Affairs, 2020). Worries, preoccupations, and

anxiety can develop a full range of symptoms and meet the criteria for a specific mental disorder (because of a significant stressor), i.e., to worsen the condition of persons with pre-existing psychological disorders or in persons who have not yet experienced a similar experience and are turning for help for the first time now (Fagiolini, 2020). Changes in the socioeconomic sphere, such as the loss of a job, have an extremely bad effect on people in that position. The necessary isolation measures had an additional effect on top of the already existing crisis of loneliness. (Holt-Lundsted, Smith & Baker, 2015).

The risk for suicidal behavior also increases. The prevalence rate of suicides has been a warning sign for a long time, and now a "dual pandemic" is emerging. Groups at risk overlap to a large extent (Banerjee, Kosagisharaf & Sathyanarayana, 2021). With 50 million people suffering from dementia and the rising curve of the known number of people suffering from COVID-19 infection, one can talk about the conjunction of pandemics (Burns et al., 2021; Wang et al., 2020).

7. TAKING CARE OF SENSITIVE POPULATION GROUPS DURING THE PANDEMIC - WORK OF SOUP KITCHENS

Providing food for socially and materially disadvantaged users through soup kitchens is an important, essential activity at the city level, which provides a daily meal for about 10,000 users (IPHB, 2020a). This, for many the basic meal, and for some the only one during the day, satisfies a minimum of 50% of daily energy and nutritional needs (City of Belgrade, 2011) and is financed by the City of Belgrade. Due to the recognized risk to health and the endangering of defense capabilities, especially in conditions of a threatening infectious disease, the suspension of the distribution of meals to this sensitive and heterogeneous population would have adaptations of activities to the current situation made, so that even in conditions of a state of emergency, the provision of this service would not be suspended. In accordance with that, respecting the measures adopted at the level of the Government of Serbia, which are primarily related to the restriction of movement during the state of emergency, the dynamics of the distribution of meals and the implementation of program preventive control have been modified, so in the period from 23.03 - 08.06.2020. year, the distribution of meals was organized during 3 working days a week (Monday - Wednesday), while for the other days lunch packages were distributed, consisting of foods that are usually part of these packages within the valid menu, and according to availability due to extraordinary circumstances. In accordance with the situation, the activities of the Institute of Public Health of Belgrade and cooperation with the Secretariat for Social Protection have been intensified in the direction of providing professional methodological assistance - giving instructions and recommendations with the aim of reducing the risk of the occurrence and spread of the infection of COVID-19 related to the implementation of activities in facilities for the preparation and distribution of meals from national kitchens.

The proactive programmatic activity of the Institute of Public Health of Belgrade based on the control of food and the sanitary-hygienic condition of facilities for the preparation and distribution of meals in public kitchens during the "lockdown" was being implemented at full capacity, in terms of the type of activity and scope. It included a tour of distribution points and facilities for preparing meals with an insight into the sanitary and hygienic conditions and the implementation of regular and additional epidemiological measures aimed at preventing the occurrence and spread of the COVID-19 infection; microbiological control of food and swabs; meal quality control - chemical - bromatological analysis. Although, based on the knowledge available to date, food does not pose a risk in the context of the SARS-CoV-2 virus, the application of routine hygienic procedures in working with food together with new anti-epidemic measures aimed at the prevention of the SARS-CoV-2 virus contributes to reducing the risks associated with diseases that are transmitted through food.

Based on the statistical processing of the test results of the samples collected during the

state of emergency (23.03 - 08.06.2020) using the software of the Institute of Public Health of Belgrade, all food samples were satisfactory, in the sense that the presence of microorganisms (pathogens and indicators) was not detected, while the level of inappropriate findings in swabs (2.1% of samples) was also at a satisfactory level. The sampled meals met the minimum energy-nutritional criteria. During the state of emergency, a total of 190 swabs and 35 meal samples were sampled for microbiological and chemical-bromatological tests. Consultative and educational work was carried out in the field all the time.

Effective cooperation of the public health sector- of the Institute of Public Health of Belgrade and local authorities at the city level- the Secretariat for Social Protection, during the state of emergency, but also during the COVID-19 epidemic, indicates the importance of joint and coordinated work in order to ensure the continuity of the essential activity - feeding sensitive users in soup kitchens.

8. INFORMING THE PUBLIC THROUGH THE WORK OF THE CALL CENTER

When we talk about COVID-19, we must not forget that it is a completely unknown, serious illness in a significant number of patients, the appearance of which caused fear and panic in a large part of the population (Mertens et al., 2020). In addition, it was accompanied by complex anti-epidemic measures, which were updated almost daily, in accordance with the current epidemic situation, and which required constant adjustments at all levels of society's functioning. Because of all the above, it was necessary to provide faster and more accessible channels of communication between health professionals and the general population (ORISE, 2009; FEMA, 2020). Providing accurate and timely information and advice in such an emergency situation imposed the need to open telephone lines to receive calls from the population. A significant role in this process was played by the Institute of Public Health of Belgrade, in which the call center started operating immediately before the declaration of a state of emergency on the territory of the Republic of Serbia. The work at the Center was carried out on the basis of official documents obtained from competent institutions (Government of RS, Ministry of Health, and Institute of Public Health of Serbia). The work of the call center was organized into two shifts, with at least three health workers per shift. More than half of them were doctors, followed by senior nurses and sanitary and environmental technicians. The most frequent questions related to prevention measures, disease symptoms, testing, isolation, referral to Covid centers, psychological support, and organization of work processes in companies, and entry and exit from the country (IPHB, 2021). The number of calls per day was on average 260, i.e., 44 calls per healthcare worker (IPHB, 2020b). In conditions of limited movement and an overloaded health system, the ability to receive specific information and advice from health workers by telephone was a significant resource in the early phase of the epidemic (Monaghesh et al., 2020).

9. ARTIFICIAL VENTILATION AND AIR CONDITIONING AND THE USE OF PORTABLE DEVICES FOR PURIFYING THE AIR OF CLOSED SPACES DURING THE PANDEMIC OF THE INFECTIOUS DISEASE COVID-19

Since the beginning of the pandemic, the Institute of Public Health of Belgrade has received many requests from citizens and legal entities for making recommendations on the manner of implementation of hygienic-epidemiological measures prescribed by Regulation on measures to prevent and suppress the infectious disease COVID-19 (Official Gazette RS, 33/2022, 48/2022, 53/2022, 69/2022, 144/2022). Among numerous requests, in the first place those in which recommendations for the safe use of artificial ventilation and indoor air conditioning are requested, especially in the summer, as well as requirements related to the safe use of portable devices for indoor air purification, considering the route of transmission of the SARS-CoV-2 virus and possible the risk of infection spreading in such an environment.

However, in practice, it has been shown that many closed spaces provide a smaller share of outside air or none, which increases the risk of the spread of the virus, so the use of artificial ventilation and air conditioning systems is recommended in such rooms, subject to compliance with the following measures (CDC, 2020, 2021; US-EPA, 2022):

- The devices should work at full capacity when the space is empty, and when people are present in the space, the system should be set to a lower operating mode, according to technical possibilities.
- If, in addition to artificial ventilation, there are also conditions for natural ventilation, it is recommended to periodically (every 30 minutes or an hour) open windows and/or doors for a few minutes and thus provide additional air exchange.
- For ventilation and air conditioning of closed spaces, it is recommended to use a ventilation system with HEPA filters, which must be regularly maintained, cleaned, and changed, in accordance with the manufacturer's specification.
- Avoid the direct flow (blowing) of air towards those present, because it has been established that this enables the spread of the virus from a potential carrier to other healthy persons who are in the current of the airflow (exclude places for employees to sit and work in those zones).
- Operators involved in the maintenance and operation of ventilation and air conditioning systems are obliged to increase the cleaning and disinfection measures of outlets, filters, grates, and all parts of the system that are otherwise provided for by technical procedures.

Although there is no direct scientific evidence to support the effectiveness of portable air purifiers in reducing the transmission of the SARS-CoV-2 virus, portable air purifiers with HEPA filters could remove viral particles from indoor air (US-EPA, 2022), which would reduce exposure to the virus, but also other pollutants from the air and contributed to the overall improvement of indoor air quality.

Conclusion

There are many important issues related to the COVID-19 pandemic. In our publication, some of them are highlighted, such as a role of the health workforce, organization of hospitals during the pandemic, establishment of call center to provide accurate and timely information to the general population, work of soup kitchens in this severe situation, and others. Overall, we wanted to emphasize the importance of coordinated efforts and proactive measures to mitigate the impact of the future pandemics and severe situations on public health.

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CHAPTER 10

INSTITUTE OF PUBLIC HEALTH OF BELGRADE ACTIVITIES IN THE EMERGENCY SITUATION

- FIELDWORK EXAMPLES-

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Ključne reči: Vanredne situacije, zdravstveni rizici, intervencije, epidemiološki nadzor, Imunizacija

ABSTRACT:

Among the significant challenges in public health, around the world there are various potential risks and health threats that may reach the level of crisis or emergency situation. Those may be contagious diseases, chemical or radioactive incidents, food contaminations, natural catastrophes and threats deriving from climate changes, like extreme weather conditions and devastations of forests. Therefore, in order to provide the most effective protection of communities and the general public in an afflicted area, various approaches for strengthening the public health system have been developed. In the Republic of Serbia, institutes of public health carry and manage the activities during emergency situations, each in their respective areas, in all their phases. At the same time, they collaborate with other health centres, local self-governments, public companies and institutions, civil society organizations, and the media. A period of no less important activities belongs to the period before of an emergency situation, which is used for preparedness for responding in case of need. In organising and carrying out activities in emergency situations, all the Institute's organisational units participate: departments of epidemiology and microbiology, hygiene, and environment and those dealing with social medicine. This paper describes the activities of all the Institute of Public Health of Belgrade (IPHB) departments during two different emergency situations: the 2014 floods and the COVID-19 pandemic that started in 2020.

Keywords: Emergency Situations, Health risks, Public health interventions, Surveillance, Immunization

INTRODUCTION

Among the actors of the public health system in the Republic of Serbia is the network of regional public health institutes (RIPH). At the top of this network is the Institute of Public Health of Serbia „Dr Milan Jovanovic Batut“(IPHS), the leading professional and methodological institution of the RIPH network. Key activities of the RIPH network in emergency situations are rather complex and clearly defined. They are aimed at reducing the effects and consequences of an emergency situation, assessing, monitoring, and planning all measures and resources, creating conditions for rapid response, and saving the population, as well as maintaining the functioning of the health system and the provision of health care. The mentioned activities are part of the emergency situation management cycle during its phases of reducing the effects, state of readiness, responding and recovery. Of special significance are activities that comprise

response readiness in emergency situations, which are conducted in a period prior to an emergency situation onset. Readiness consists of coordinated and continuous processes of strengthening the necessary capacities, planning and implementation of measures in situations when health risk effects may potentially overcome the routine capabilities of a community to resolve them. One segment of the activities also relates to the establishment of and maintaining the information and communication system in crisis and emergency situations. That means creating a list of institutions and personnel for communication and releasing information and, continuous information updates from the list for purposes of speedy communication, assessment of participants' list content within the system that is outside the healthcare sector, according to the nature of the emergency situation, preparation, adding to or improvement of the information system (Nelson et al., 2007; Ministry of Health of the Republic of Serbia, 2018; Rose et al., 2017; NACCHO, 2015). Upon declaring an emergency situation, the RIPH activate the Emergency Situation Operational Plan, start the first organizational activities, and set up a communication and information system. In such circumstances, communication and collaboration with other healthcare institutions, local self-managements, public companies, and institutions in the territory of their jurisdiction, is indispensable. (Ministry of Health of the Republic of Serbia, 2018; Rose et al., 2017; Public Health Act, 2016).

Basic operational activities are the first information release on the new situation onset, the situation assessment and analysis (based upon the available data), assessment of needs and participation in providing the necessary medical assistance, conducting measures of preventive medical protection, as well as suggesting measures to higher instances and formation of multidisciplinary teams (Ministry of Health of the Republic of Serbia, 2018; Rose et al., 2017; WHO, 2015)

The RIPH activities are in accordance with professional methodological instructions on a national level (according to the actual epidemiological and emergency situation), the actual legal regulations, as well as the WHO instructions and recommendations for an Operational Centre, public healthcare practitioners, creators of the healthcare policy, authorities, and agencies responsible for managing the emergency situations when public health is compromised. Therefore, the RIPH are involved in the quick assessment of the needs of a community afflicted in a crisis or emergency situation, all aiming at providing the best possible response (which population is at the highest risk of injury, disease or death outcome, assessment of a type and amount of the necessary medicament and medical supplies, assessment of a need for the population evacuation to shelters or temporary housing facilities, power supply restoration). Preventive health care measures comprise injury and infectious diseases prevention activities, maintaining an epidemiological supervision system in infectious diseases situations, aspects of environment protection and exposure to contaminants, providing continual necessary health care services, as well as activities for maintaining good mental health coupled with psychological support, health promotion, providing information and education for the general population. The healthcare institutions conduct the above-listed activities according to set priorities in the fields of epidemiology and microbiology, hygiene, and environment, as well as social medicine that all make the RIPH organisational structure (Ministry of Health of the Republic of Serbia, 2018; Public Health Act, 2016; WHO, 2015).

This paper presents two fieldwork examples that describe the emergency situation activities of the Institute of Public Health of Belgrade, as one of the RIPH in the Republic of Serbia. As a source of information, data from the IPHB have been used: an Annual report on carrying out a Program of protecting the population from infectious diseases in the territory of the City of Belgrade in 2014, the IPHB reports on activities of monitoring the hygienic-epidemiological situation in the flooded areas in the territory of Belgrade in 2014, Daily Reports on activities related to the COVID-19 in the territory of Belgrade for the period March 2020 – September 2021, Weekly Reports on the epidemiological situation of the COVID-19 in the territory of

Belgrade in the period July 2020 – September 2021.

All the activities are listed in accordance with the emergency situation management elements (starting from the identification of the hazard, threats, and risks assessment, undertaking organisational activities, and activating a respective plan for the emergency situation actions, conducting prevention measures and mitigation measures, activities for response and public information readiness, to a recovery phase), as well as the IPHB activities.

1. THE 2014 BELGRADE FLOOD

Immediately upon receiving the information on the incoming flood wave in seven city municipalities (15.5.2014), the IPHB hygienic-epidemiological team visited the afflicted locations and when the emergency situation was declared, a Flood Defence Plan for Belgrade was activated and the most important organisational activities were underway: an IPHB Emergency Situation Headquarters was established, 24/7 duties and stand-by activities were introduced, 8 hygienic-epidemiological teams gathered, a mobile environment-toxicological unit was activated, information and communication network was established, PR responsible persons designated.

After conducting the first assessments of the epidemiological situation, a continuous epidemiological monitoring was set up for infectious diseases in the city territory, as well as in temporary housing facilities. The most severe situation was in Obrenovac municipality, where 80% territory was flooded, about 25,000 people were evacuated, out of which 5,252 were housed in facilities for temporary collective accommodation in the city (to about 30 facilities or even 50 at some point). Among the evacuated, most of them were the elderly, but also 1,270 children and 236 babies. Continuous information release from the Institute of Public Health of Serbia and the Ministry of Health was introduced (at first, every 6 hours, and later once a day). The IPHB epidemiological teams were present in the field on a daily basis until mid-July 2014 (from 8 a.m. to 8 p.m.), monitoring the epidemiological situation, coordinating hygienic-epidemiological measures and activities. Later on, monitoring continued in collaboration with an epidemiologist from the Obrenovac health centre.

In cases of any infectious disease, epidemiological investigation was organised and conducted, with recommendation and implementation of disease control measures, microbiological analysis, and laboratory testing of collected samples, measures of disinfection, disinsection and pest control, and supervision over the chemo and immunoprophylaxis measures conducted. No infectious disease outbreak was registered. Hundred and five (105) written reports were made on the conducted activities of the epidemiological teams, with recommendations for prevention/control measures (Department of epidemiology and microbiology) (IPHB, 2014a,b).

Daily water and food control was being conducted with monitoring the waste disposal, area amelioration and mapping, whilst defining zones of high and low risks, water from individual water wells disinfected, recommendations for food distribution in temporary accommodation facilities issued, instruction for activities prior to entering any structure once the flood receded, instruction how to do any cleaning in a safe way (Department of hygiene and environment) (IPHB, 2014a,b).

There was also participation in organising healthcare in the collective accommodation facilities for the evacuated, in preparing and distributing educational material for the general public, in preparing and posting notifications and releases on a IPHB web page, providing phone helplines for general public and for advising parents of young children through general public parent's helpline "Halobeba" (Department of social medicine) (IPHB, 2014a).

All the listed readiness and response activities in emergency situations are part of the Basic Competences of the EU Member States regarding emergency situations, as well as in the WHO

Methodological Recommendations (WHO, 2015; ECDPC, 2017). Kendrovski et al., in an article Managing Health Risks during the Balkans Floods, where the Obrenovac flood was its integral part, highlighted a need to fill in a gap in knowledge about endangered public health in the existing practice of managing floods, thus integrating health before, during and after the flood emergency situation. Taking into account lessons for early warning system, readiness and response, as well as integration of the research results, all would lead to a better understanding of health risks and prevention of any disruption in providing healthcare services (Kendrovski et al., 2017). At the same time, analysis of the data on health risks due to catastrophic floods points to how significant readiness is in mitigating the natural catastrophes impact on health, particularly with regard to diseases transmitted by food and water (Paterson, Wright & Harris, 2018).

2. COVID-19 PANDEMIC

The COVID-19 pandemic has been the worst emergency situation for the public health worldwide since the Great Influenza pandemic in 1918. About 500 million people were infected with the virus – a third of the world population, and 50 million deaths were registered all over the world (twice as many of those perished in the First World War) (National Archives, 2021). The COVID-19 outbreak was first registered in late 2019 in the city of Wuhan, China. On 1 January 2020, Huanan seafood wholesale market in Wuhan was closed to an indefinite time period due to a connection with the virus outbreak. In the following days, China declared that Wuhan and other cities were under lockdown in an attempt to stop the virus from spreading (Allam, 2020). A novel coronavirus was detected, and on 11 March 2020 the World Health Organisation characterised the COVID-19 outbreak as a pandemic (Wang et al., 2020; WHO, 2020). The first COVID-19 case in the Republic of Serbia was registered on 6 March 2020; on 15 March 2020 the emergency situation was declared on the territory of the entire country. The Ministry of Health declared the outbreak of greater epidemiological importance. From the first registered case until 27 September 2021, the total number of cases was 926,269 (out of 5,601,570 tested individuals). The highest daily average numbers for a seven-day period were registered in the November-January peak (7,278 cases 4.12.2020.), and then in a week of the actual peak in September-October 2021 (6,968 cases registered on 19.9.2021). The average number of cases in Belgrade was about 25% of all the registered one in Serbia (which corresponded to the number of population in Belgrade relative to the total number of population in Serbia). According to the available data, the disease was a leading cause of death in 8,142 cases (0.88% death rate) (Official Gazette of RS, 2020; JHU Coronavirus Resource Centre, 2021; Ministry of Health of the Republic of Serbia, 2023)

Enhanced surveillance approach was applied, a combination of active case detection and more often a passive approach, and processing all the reported cases (coming from the health centres, centres of collective residential facilities, work organisations), then measures of reducing the spreading on an individual level (contacts tracing and quarantine measures for the contacts), coupled with country border control and measures applied within communities (social/physical distancing, mandatory mask wearing, then measures in public transport, fewer number of individuals in closed environment, etc.), which, depending on the actual epidemiological situation, were either more rigorous or laxer. In addition, the importance of conducting daily activities was seriously taken into account, all coupled with the recommended measures wherever possible (IPHS, 2020; ECDPC, 2020; Ansah et. al., 2021; Hartley, 2020).

The IPHB epidemiologists with their associates processed 58,798 reported cases of COVID-19 infections. Eighty-seven (87) outbreaks of the novel coronavirus were registered and processed (at health institutions, work organisations, collective residential facilities of the social protection network), 111 written report releases were made with recommendations for control

measures.

Health care and social protection institutions on the territory of Belgrade are still continually provided with professional methodological assistance in order to detect and treat those with COVID-19. In Belgrade, the IPHB epidemiologists are still available 24/7 to the Belgrade health centres physicians. There have been over 14,000 consultations. Healthcare monitoring was conducted for 7,057 individuals who contacted the IPHB Epidemiological Service after arriving from countries afflicted with the COVID-19 in order to prevent introduction of the virus and its spread.

Contact tracing of cases with COVID-19 was carried out, particularly those who work at or are patients in healthcare institutions, as well as of those working at pre-school facilities and collective residential facilities under social protection (44,040). Apart from those working on epidemiology, other IPHB services professionals, physicians on specialisation who had a break in their specialisation classes, as well as physicians engaged by the UNOPS (United Nations Office for Project Services) participated in contacting by phone individuals positive for COVID-19, and in tracing and advising their contacts. Our co-workers also participated in providing counselling and answers to all the questions the population, representatives from various organisations, pre-school institutions and the social protection institutions network may have had, all via emails (8,100). Results coming from various authors indicated that an application of a strong surveillance system with active detection of the new cases, prompt contact tracing, including the contacts quarantine coupled with based on risk assessment measures applied within the community, can be of great help in curbing the spread of COVID-19. The unquestionable effectiveness of such a system of surveillance is certainly under the impact of asymptomatic cases, and cases with a mild form of the infection, that may remain unrecognised, as well as of the healthcare system capacities that are needed for such form of surveillance (Keeling, Hollingsworth & Read, 2020; Pung, Cook & Chiew, 2021).

With regard to the COVID-19 cases among the students and school staff in 28 schools in Belgrade, 1,559 epidemiological tests were performed (95 information releases made with recommendations for control measures) (IPHS and the Ministry of Education, Science and Technological Development, 2022).

From the very start of the epidemic, field teams have been on 24-hours a day standby for sampling and transporting biological material. In the period March 2020 – September 2021, those teams had about 3,000 field interventions, and about 31,072 PCR test swabs were sampled and transported to referral laboratories. In addition, just in the IPHB COVID-19 outpatient centre, 30,100 PCR smears were sampled, 710 blood samples taken for serology testing to the novel coronavirus antibodies, and 1,015 (2021) swabs taken for detecting the novel coronavirus by applying rapid antigen tests (IPHB, 2021a,b).

For the immunisation of the public against COVID-19 in this country, vaccines from four different manufacturers were provided: Sinofarm, Gam-Covid-Vac, Pfizer, and Astra Zeneca. Immunisation priority groups were: healthcare centres staff, nursing homes staff and those in other social protection facilities, the elderly over 65 years of age, who were in the permanent care of nursing homes and other social protection facilities, the elderly over 75 years of age coming from the general population, individuals with comorbidities over 65 years of age, individuals employed in certain institutions significant for normal functioning of the society (Ministry of Health RS, 2020).

In order to immunise the population against COVID-19 as wide as possible, and to avoid crowding and long queues, besides the vaccination points at healthcare centres, additional points were established in the Belgrade Fairground and Belexpo Centre halls (with the support and logistics provided by the Republic of Serbia government IT and e-Management Office). In collaboration with health centres and the local self-government, vaccination was arranged for

nursing homes, and other institutions and facilities of the social protection network, then in people's homes for the disabled, at temporarily arranged points for the rural population, then points at commercial centres and malls, mobile points in specially equipped buses.

Besides the Covid-19 vaccination, there were intensive activities in immunising the vulnerable groups (patients with chronic lung, cardiovascular and metabolic conditions, and those at nursing homes and other healthcare and social facilities) against flu and pneumococcus, so as to prevent coupling infections with the SARS-Cov-2 virus.

From the beginning of the recommended immunisation (late December 2020) to 20.09.2021, on the territory of Belgrade, the total of 797,643 people were vaccinated with the first dose against the Covid-19 (57.50% of the Belgrade adult population), while 768,388 people received the second dose (55.43% of the Belgrade adult population). The third dose of the vaccine against Covid-19 was given to 128,481 people in Belgrade (9.27% of the Belgrade adult population).

The largest vaccination coverage in Belgrade was registered for the following age groups: 65-74 (82%), over 75 (78,2%) and in the age group 50-64 (64,63%). As for gender groups, females were in the majority for about 10% relative to males. Two-dose vaccine coverage in nursing homes was 69.7 %, and three-dose coverage was 19.3% (Department of epidemiology and microbiology) (IPHB, 2021b).

Covering 47.60% of the population in Serbia and 55.43% of the adult population in Belgrade, actually failed to achieve collective immunity, so when the SARS-CoV-2 delta variant was dominant in late July and early August, there was a rise in cases of infection and a new wave of the sick, like in other countries in the world and in the neighbourhood, but among the severe cases, then in those hospitalised and in patients who died, the dominant number was of those unvaccinated, which certainly was the result of immunisation (Bartsch et al., 2020; Moghadas et al., 2021; Huang et al., 2022).

In order to prevent the spreading of the COVID-19 infection, 40 expert recommendations and instructions were issued in various facilities, work organisations and the event industry. Those recommendations were written by specialists in hygiene and are related to the use of personal protective equipment, application of measures in public transport, the use of artificial air conditioning, operations of daily centres and clubs within the social protection system, work re-organisation in offices and firms, in theatres and other cultural institutions, sports and recreation and swimming facilities, beauty salons, hospitality industry facilities, all coupled with organised training, etc. The recommendations and instructions were drawn up in accordance with the evidence and guidelines coming from internationally relevant institutions (Department of hygiene and environment) (ECDPC, 2020b; WHO, 2021; ECDPC, 2020c).

An important part of the activities was related to conducting health education of and informing the population (about 42,010 people were reached by phone, the healthy ones /the sick/those suspected to be ill and/or had been in direct contact with the infected), preparing education material and texts about the COVID-19, meant for the general population, monitoring how media reported about the events, work on the IPHB web page dedicated to the material about the COVID-19 (279,068 views). To that end, there were 9,339 media programmes broadcasts (TV, radio programmes, newspaper articles). Several educational and immunisation-promoting posters and leaflets were printed for the general population but also for certain vulnerable and specific groups (students, the elderly, the Roma). Posters had a circulation of 20,000 copies, and leaflets of 350,000. Furthermore, as part of a partnership activity between the IPHB and the Library of the City of Belgrade, posters and leaflets were also distributed in e-version via the Library's Facebook page. Information by phone was provided to both the Belgrade population and the international travellers, to 13,800 people (Department of social medicine) (IPHB, 2021c).

Besides the above-mentioned activities, the IPHB experts from the epidemiology and microbiology services participated in two seroprevalence studies (National Study of seroprevalence and molecular characterisation of the SARS-CoV-2 virus in Serbia, 2020 and a current, repeated seroepidemiological study taking as subjects the same Belgrade population as in the first one). The results of both studies and the IPHB routine work data analysis of the measures undertaken will add to the knowledge of epidemiological and serological characteristics of the SARS-CoV-2, thus making it possible to have a complete view of the effectiveness of the measures undertaken in our environment.

3. CONCLUSION

The paper lists numerous activities but also the challenges of public health in the emergency situation circumstances. Those activities commence in the period before an emergency situation onset, then include preparedness, capacities enhancement, situation assessment, planning and implementation of measures, setting up and maintaining an information and communication system, as well as collaboration with the parties outside the healthcare. Since such activities are always rather complex, carrying an element of unforeseen circumstance, experience sharing and exchange of acquired knowledge is a good practice for the improvement of emergency situation cycle management.

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CHAPTER 11

HEALTH PROMOTIONAL AND EDUCATIONAL ACTIVITIES AND THEIR IMPLEMENTATION METHODS DURING THE PANDEMIC

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ABSTRACT:

Communication through digital technologies is one of the most prevalent ways of informing the public, and it is increasingly used by health professionals in their daily work, its importance has been further emphasized during the COVID-19 pandemic, as well. Online education of healthcare workers and associates by the Faculty of Medicine in Belgrade, education of employees in preschool institutions by the Institute of Public Health of Belgrade, creation of a mobile application for the prevention of child injuries, online service for providing psychological support and treatment, digital health promotional materials - examples are the successful digital communication of health professionals between themselves and the general population. Among the many advantages of this way of communication, greater flexibility in work and wider coverage of the target population are highlighted, while the main challenges and disadvantages are technical difficulties, the impossibility of adequate monitoring of the audience, and the lack or difficulty in evaluating feedback non-verbal communication.

Keywords: COVID-19 pandemic, education, online education, public health

INTRODUCTION

With the rapid development of the Internet and information technologies, as well as various digital media, communication through digital technologies nowadays represents one of the most prevalent ways of informing users in the modern world in almost all spheres of life, and, accordingly, also in the field of preserving and improving health. Digital technology has become a conventional method of health education for the general public and has the potential to influence health behavior (Wen et al., 2015). In our country, it is increasingly used by health professionals and their associates, both during work with patients and in acquiring new knowledge and skills through continuous education through various online platforms (Markovic et al., 2019).

The importance of this method of communication was further emphasized at the beginning and during the pandemic of COVID-19, when reducing the number of physical contact with other people and maintaining physical distance became one of the most important anti-epidemic measures in the fight against this virus, and at the same time there was a need to maintain adequate communication with colleagues, students, users of various health services and the general public, which included both the exchange of experiences and the transfer of knowledge

through various educations, various types of counseling, provision of psychological support, etc.). In addition to education, digital technologies are increasingly used in therapeutic work, especially in various forms of counseling and psychotherapy.

1. EDUCATION OF HEALTHCARE WORKERS AND ASSOCIATES DURING THE COVID-19 VIRUS PANDEMIC

The Faculty of Medicine of the University of Belgrade organizes postgraduate programs intended for education in the field of public health for doctors of medicine, as well as for future professionals in the field of public health of other educational profiles. The programs that are carried out at the Faculty of Medicine of the University of Belgrade and the School of Public Health and Management in the Health Care System and which relate to postgraduate education in the field of public health are: Master of Public Health, Master of Management in the Health Care System, Specialization in Social Medicine, and doctoral academic studies in public health (Faculty of Medicine, University of Belgrade, 2022). The COVID-19 pandemic brought new challenges with it: disrupted routines, large numbers of students involved in the response to the pandemic, and adapting to extraordinary circumstances, while international students faced additional difficulties (Hayat et al., 2021).

Following the new circumstances, online learning was organized through the Moodle platform, previously used for certain elective subjects and several programs of combined learning. Online learning during the pandemic took place in two ways: synchronous and asynchronous (Shandra et al., 2021). Asynchronous learning was conducted through recorded lectures, audio and video recordings, and synchronous learning through a virtual classroom. The main problem we faced with synchronous learning was related to server issues, as many students and/or teachers could not access Moodle at the scheduled time.

At the beginning of the pandemic, 15 candidates attended master's studies in public health, and classes were held in 12 subjects (10 compulsory and 2 optional). Theoretical teaching was conducted through recorded lectures, exercises, and seminars, as well as through discussions, assignments, case studies, and online consultations. Exams were conducted F2F in classrooms since the Faculty of Medicine did not allow online exams. Similar problems arose in the implementation of specialist classes in social medicine, with the additional problem of the ability of specialists to attend classes, given that many of them, employees of public health institutions, were involved in the response of the health system to COVID-19 in primary care institutions, as well as in secondary and tertiary level.

In the doctoral study program, the biggest challenge for candidates was conducting research, due to the transition of a large number of healthcare institutions to the Covid mode of operation, i.e., due to the impossibility of access to patients. The publication of the paper, which is a requirement for the thesis defense, was difficult given that many journals were more interested in research related to COVID-19. Also, public defenses of doctoral dissertations could not be organized during the state of emergency and/or during the period when it was forbidden to gather more than five people in a closed space.

Like many other universities, the Faculty of Medicine, the University of Belgrade, and the School of Public Health and Management in the Health Care System faced numerous challenges in organizing online activities during the COVID-19 pandemic. The advantage of the Faculty of Medicine was that the online platform was already used by both students and professors, and a large part of the content was already available for adaptation. Nevertheless, the satisfaction of the students and the level of knowledge they have acquired has yet to be assessed.

2. ONLINE EDUCATION OF EMPLOYEES IN PRESCHOOL INSTITUTIONS

Bearing in mind several different factors: the epidemiological situation in our country, and in Belgrade, where almost one-third of our population lives, the scope of work duties - both of employees in our institution and employees in preschool institutions, the Institute of Public Health of Belgrade (IPHB) decided to adapt the activities to the existing situation and needs of users and to implement a new way of educating employees in preschool institutions through the ZOOM platform. The education included holding lectures in the field of preventing the occurrence and spread of infectious diseases and training aimed at improving health and educational work with children of preschool age and was jointly implemented by the Center for the Control and Prevention of Infectious Diseases, Epidemiology Service and the Center for Health Promotion, Social medicine service.

The training was carried out in the period November - December 2020 for all 17 preschool institutions on the territory of the city of Belgrade and was attended by a total of 837 participants (nurses, educators, and professional associates) employed in these institutions. All trainings were conducted from 13.00, and this term was chosen based on previous consultations with preschool institutions, as it was concluded that this is the time when employees have the greatest opportunity to attend training, considering their workload and shift work. The duration of the training was 60-75 minutes - depending on the activity of the participants, and the content of the training included the following topics: "COVID-19 in children's collectives" and "Physical activity in preschool age - the importance of physical activity and recommendations during the COVID-19 epidemic".

During the presentation, the participants could, at any time, ask questions in the space provided for communication (chat), which the lecturers answered orally after the presentations. The presentations were subsequently supplemented during the education following the questions and needs of the participants. The participants could download the presentation via a link, to use the given information in their further work, and the material was subsequently sent to the official addresses of preschool institutions.

The training participants were given the opportunity to send additional questions regarding the presented topics within seven days after the completion of the training, after which a document with questions and answers was created and sent to all institutions so that they would have adequate information that will be useful in their further work. During some trainings, there were several technical problems in the sense of loss of internet connection and the impossibility of hearing and seeing the lecturers for a few tens of seconds to a few minutes, but they were resolved very quickly, and the content presented during the loss of connection was repeated by the lecturer.

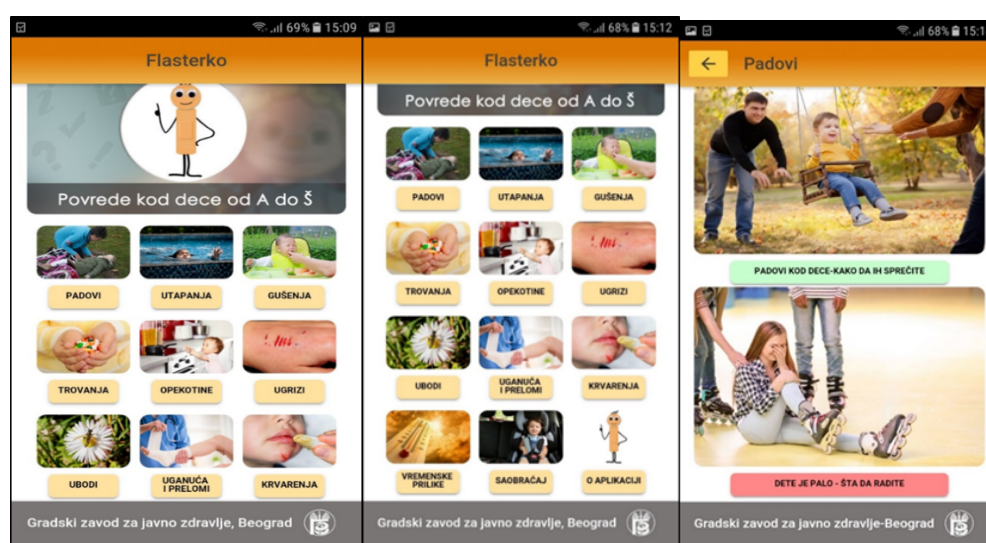
The biggest challenge in the implementation of online education was the satisfaction of the technical conditions by the users, as well as the adequate recording of those present at the education, considering that many accessed it from devices that were not theirs. The lecturers pointed out that during online education there was a noticeable lack of non-verbal feedback from the audience during classical education. Also, the presence of the participants during the entire education is solely at the discretion of the participants themselves, since it was not possible to monitor the physical presence of the participants in any other way.

However, despite the mentioned challenges, we have seen numerous advantages of conducting online education - with the existing technical capabilities of our institution, the preparation and execution of ONLINE education are not too demanding, and enable a more comfortable way of attendance for both participants and lecturers, taking less time compared to physically attending the educations, and the recorded number of participants indicates that the response is higher compared to the holding of classical education in preschool institutions so that with less time, greater coverage of the target population is achieved.

2.1. Mobile application on the prevention of injuries in children

The participants of the training also had the opportunity to familiarize themselves with the mobile application "Flasterko (Patchy) - injuries in children from A to Z", which was created by the experts of the Institute of Public Health of Belgrade, in consultation with the experts of the Red Cross of Serbia and pediatric specialists with many years of clinical experience. The application provides basic information about child injuries, as well as health consequences caused by the effects of the weather. The content of the application is structured according to the most common types of injuries - from falls, drowning, burns, frostbite, poisoning, suffocation, insect stings, and animal bites, to road traffic injuries. Each topic is divided into two parts - the first, which refers to recommended activities with the aim of reducing the risk of injury, and the second, which refers to the response and activities if an injury occurs. This mobile application represents a modern way of informing parents in our environment about the possibilities of prevention and treatment of injuries, which is consistent with the limited time and great mobility as a consequence of the modern lifestyle.

Figure 1. Mobile injury application



Source: The Institute of Public Health of Belgrade, 2019.

3. INFORMATION TECHNOLOGY SERVICES IN THE SERVICE OF PSYCHOLOGICAL SUPPORT AND ONLINE EDUCATION DURING THE PANDEMIC

The onset of the global pandemic in early 2020 caused a massive shift of activity from the physical to the virtual domain, sometimes almost overnight. Although the whole society was deeply shaken by this sudden and unprecedented change, some sectors were particularly affected – especially those where core processes rely on face-to-face communication and interaction. Among them were the health and education sectors, where health professionals and teachers were forced to try to find alternative solutions to continue their work as normally as possible since they were not able to be in physical proximity to their patients or students.

Fortunately, advances in information and communication technologies (ICT) have made this sudden transition somewhat bearable, as there are numerous online communication tools (i.e., teleconferencing) that users can choose from and that can mostly be used for free or for a minimal fee, which is usually accessible at the institutional level. Despite that, most of them were not specifically designed for the scenarios in which they were suddenly used, so after a short period of elation at being able to continue working in new circumstances, users would start to feel frustrated due to technical problems associated with the use of online tools or the lack of functionalities that would contribute to easier work. Established software and hardware suppliers in the ICT field, as well as some startups, began to actively work on finding ways to

overcome the challenges faced by users during the new circumstances, which resulted in improvements to existing tools but also with the appearance of new solutions. At the same time, a lot of effort has been put into identifying the advantages and positive experiences of the unique situation everyone finds themselves in, which are expected to be put to good use even when things return to normal (or the "new normal").

As an illustration, in the domain of psychological support, some of the major problems in relying on online instead of face-to-face communication during the sessions were technical difficulties (e.g. problems with the speed and stability of the Internet connection, inability to access/inadequate devices, etc.), but also the lack abilities to correctly perceive and evaluate non-verbal signals in communication (such as posture and movements, subtle changes in facial expression and general behavior). On the other hand, positive experiences with the use of online therapy tools included greater flexibility in scheduling sessions, reduced inhibition when expressing (when it comes to patients), and better adherence to the therapy schedule. There were also negative experiences in the education sector, where teachers often felt like they were talking to themselves during online lectures, that they could not "read" the classroom and engage their students sufficiently, while students complained of technical difficulties with devices or access to the Internet, as well as that the lectures were insufficiently interesting and that there was not enough direct interaction and cooperation with peers and teachers. On the other hand, the positive aspects of online teaching were related to more free time (no need to travel to/from the place where the teaching was normally held), greater flexibility, and the ability to more easily make up missed lessons (especially when it comes to recorded lessons), as well as the ability for students to ask questions (e.g. via forums, dedicated platforms, chat and email) and receive timely responses (Perrin et al., 2020, Appleton et al., 2021, Means & Neisler, 2020).

Given the growing understanding of the advantages and disadvantages of using online communication tools in these two domains and the efforts being made to improve them, it should not be surprising if some of them become viable substitutes for face-to-face meetings), or at least a preferred alternative for certain groups of users. For example, solutions are being developed that allow monitoring of the engagement of participants in online meetings in real-time (Cinteraction, 2022), provide support for remote teaching (Class Collaborate, 2022), and allow the analysis of emotions based on video content and sensor readings (Imotions, 2022). They often rely on artificial intelligence to measure the quantities of interest and provide the possibility of their subsequent analysis through reports and analytical dashboards - which allows users to more easily notice patterns and trends that can potentially be used as a basis for various improvements.

It is expected that further progress in the field of artificial intelligence, together with a change in the way of thinking when it comes to a new way of using technology, will contribute to a positive transformation in these domains, that is, the development of products and services that will improve user satisfaction and the quality of the processes themselves.

4. OUTSIDE THE PUBLIC HEALTH SYSTEM - MENTAL HEALTH SUPPORT DURING A PANDEMIC

Given that the pandemic, in addition to physical, also damaged mental health, the Association of Psychotherapists' Associations of Serbia (SDPTS) launched the project "Support for Psychotherapists" for free support to citizens (SDPTS, 2022a). Through a media campaign, citizens were informed that psychotherapists have become an additional link in providing assistance and reducing pressure on system resources, especially in health. As of March 24, 2020, about four hundred SDPTS volunteers were involved in the project and were available on the SDPTS website (SDPTS, 2022b). In April 2020 the web application "Psychotherapist Support" was also created, which could be accessed through the SDPTS website (SDPTS, 2022c). The application was developed by the volunteer work of a group of computer scientists within the

project "Be a Hero" (Council for the Cooperation of Science and Economy, 2023), and the Ministry of Telecommunications, Trade, and Tourism gave SDPTS a free telephone line.

Initially, 89 volunteers were on duty at the call center, and the number was later reduced according to the number of calls from users (SDPTS, 2022d). The services were provided in accordance with the ethical code of the SDPTS as well as individual psychotherapy associations to which the volunteers belonged, and citizens-maintained anonymity. As support, but also as an opportunity for further development and maturation of educators, volunteer supervision of volunteers provided by SDPTS was organized. A record of the performed interventions was kept via Google Forms, which contained data about the volunteer, the age and gender of the user if he was willing to communicate them, the type of problem, the type of intervention, and the adequacy of the intervention or referring the user to additional resources. The record is saved in the form of a table to monitor the project's work.

A total of 2,821 interventions were recorded in 479 days. The youngest user was 14 years old, and the oldest was more than 85 years old. In 75.2% of cases, the intervention of volunteers was sufficient (SDPTS, 2022d). In 25% of cases, the user was directed to additional resources, according to the list of additional resources that were prepared and available to volunteers (Institutions that deal with mental health, addictions, family issues, providing other types of assistance, etc.). The coverage of different age groups was achieved by the availability of volunteers through three different channels: the website, the application, and the free phone line (the latter was used by both the youngest and oldest users). The project was completed on June 15, 2021, based on the observation that the number of calls from citizens is decreasing. A similar action was organized by SDPTS in 2014 during the floods. From these two actions to help citizens and by comparing the actions themselves, the way they were organized, and the results achieved, the questions naturally arose: What are the differences? Have we matured? What was better and what was worse in 2014, in organizational, technical, and psychological sense?

The first and fundamental difference between the two mentioned events is caused by the very nature of the crisis, which caused a completely different way of providing aid (in 2014, more interventions were carried out on the ground, and in 2020 "on - line"). The attempt to establish cooperation and integration into the healthcare system in 2014 failed, while in 2020 the success was partial. Previous experience (from 2014) enabled faster and more efficient action during the pandemic. The accelerated development of new platforms for communication, social media, and web and mobile applications contributed to a faster and more comprehensive response.

The lessons learned during the implementation of the psychological support project could be used in other crisis situations. The need for operational teams that would quickly and efficiently respond to the demands of the population caused by the crisis was noted. Proactive action, starting action without delay and waiting for the "authority" to recognize the value of the idea and action shortens the time of action of a crisis without protective action (don't waste time waiting and knocking on "closed doors", start action, and some doors will "open by themselves" open"). Including other actors who can help and resist challenges and pressures and persevere on the path of ideas are some of the most important lessons learned. It has been shown once again, as in non-crisis conditions (pandemic in this case), that greater visibility of psychotherapy as a profession and psychotherapists as professionals (legal, professional, organizational support) is needed. A large and constant involvement of the media and networking of volunteers is needed for actions of this type to succeed. 410 volunteers participated in 2020, but that number is almost half that of 2014. And finally, the importance of keeping records and finding simpler and faster ways to record the needs of the users and the activities performed was observed (from the verbal statements of the volunteers, we learned that "I did about 10 interventions today, but I only recorded one, it consumes my time") during the provision of assistance, as well as the importance of having a record of what was done and written instructions on how to provide psychological support while avoiding previous mistakes.

5. THE ROLE OF HEALTH-PROMOTIONAL MATERIAL IN THE COVID-19 PANDEMIC

During the COVID-19 pandemic, various health promotion activities, such as online education and information or the creation and distribution of educational material, gained special importance. The public's apparent need for clear, accurate, simple, and competent advice has been a challenge for public health professionals, especially at a time when many factors related to the prevention and treatment of COVID-19 have not yet been thoroughly studied.

Initially, the emphasis was on non-pharmaceutical interventions to prevent respiratory diseases. For this purpose, two different posters were created, and placed on the COVID-19 subpage of the Institute of Public Health of Belgrade (IPHB, 2022), which were freely available for online distribution. Some small businesses and public institutions posted them on their information boards, front doors, etc. These posters were shared on the social networks of the health promotion partners of the IPHB, such as the Library of the City of Belgrade, etc. One of the posters ("How to protect yourself from infection with the new corona virus?") was periodically published in various daily newspapers. With the support of the City Administration of the City of Belgrade, the content of this poster has been adapted for display on numerous billboards in the Belgrade area. The information presented by the posters was explained in more detail through more than 20 articles published in the "Questions and Answers" section of the COVID-19 subpage of the IPHB website and shared on the social network accounts of the health promotion partners of the IPHB. These articles covered various life and health topics considering the COVID-19 pandemic (physical activity and diet during the pandemic, tobacco use and COVID-19, etc.). The content of the poster has been updated following the dynamics of implementation of new knowledge and recommendations in preventive practice (e.g., use of face masks).

After that, a new topic of fundamental importance - vaccination against COVID-19, was introduced by creating a series of posters and leaflets on various aspects of vaccination. The first vaccination promotion poster presented general information - the historical achievements of vaccination, the safety, and efficacy of vaccines against COVID-19, as well as the importance of non-pharmaceutical preventive measures. Other materials for the promotion of vaccination, the production, printing, and distribution of which were again supported by the City Administration of the City of Belgrade, are: a brochure with all the necessary instructions for the period after receiving the vaccine; a more detailed vaccination promotional poster intended for the general public (prominent in Belgrade's public transport vehicles); two types of leaflets, one intended for the elderly, and the other for the Roma population (printed in Serbian and Roma languages); a poster encouraging young people to get vaccinated; a brochure with answers to doubts and questions about vaccines against COVID-19 and, finally, a leaflet and a poster with information about the usefulness of taking a booster vaccine against COVID-19, six months after full vaccination (IPHB, 2022).

The biggest challenge regarding health promotion materials was how to provide adequate and accurate content, while sending strong and targeted key messages, in the context of the rapidly changing course of the COVID-19 pandemic and the significant increase in knowledge about the SARS-CoV-2 virus.

6. RATIONAL USE OF ANTIBIOTICS DURING THE COVID-19 PANDEMIC

One of the biggest challenges during the pandemic was the increased use of antibiotics and the education of health workers and the general population about the importance of rational use of antibiotics, which is based on evidence and recommended by doctors. Despite the difficulties during the COVID-19 pandemic, activities on the implementation of the Campaign for the rational use of Antibiotics, of the Ministry of Health of the Republic of Serbia, which began in November 2015 as part of the "Second Project of the Development of Healthcare in Serbia", continued with the same intensity during the COVID-19 pandemic. A large amount of education,

especially for doctors in the primary health care system, pharmacists, as well as students of medicine and related faculties, were conducted during 2020 in online and F2F format. During the pandemic, the media campaign continued in both print and digital media.

Figure 2. Posters and billboards used in print and digital media for the Rational Use of Antibiotics campaign.



Source: Ministry of Health of the Republic of Serbia

All these activities, including the restrictive measures during the first months of the COVID-19 pandemic, led to a sharp decline in the consumption of prescription antibiotics (WHO, 2022). However, the total turnover of antibiotics in the Republic of Serbia in 2020 increased significantly compared to the previous period, which indicates the misuse of antibiotics for the purpose of self-medication and the purchase of antibiotics without prescriptions during the COVID-19 pandemic (Medic, et al., 2023). An additional problem is the changed structure of prescribed antibiotics issued by prescription. Unlike before the covid era, when drugs from the first-choice group (amoxicillin, amoxicillin in combination with clavulanic acid, cephalexin, etc.) according to the WHO AWARE classification were the most commonly prescribed drugs and accounted for 52.6% of the total consumption in primary health care, during 2020. year, their share was only 36.06%. During the first year of the COVID-19 pandemic, the most commonly prescribed antibiotics were: azithromycin, levofloxacin, and cefixime. These antibiotics belong to the group of medicines under supervision (watch), which in 2020 made up 63.94% of the total consumption in primary health care. This is contrary to WHO recommendations that the most frequently used antibiotics in the population should be from the group of first choice (60%), and those under supervision in the proportion of up to 35%.

The reason for such qualitative changes in the structure of prescribed antibiotics, not only in Serbia but also in most countries during the pandemic, is the WHO recommendation from March 2020 for the introduction of azithromycin in protocols for the treatment of infection caused by the SARS-CoV-2 virus. The promotion of antibiotics as a "magic cure" for those suffering from covid soon spread to social networks, which led to an increase in the consumption of antibiotics, especially from the group under supervision, which are considered "better" and "more powerful". And among the professional public, the antibiotic azithromycin has been promoted as part of the treatment protocol for COVID-19. One of the reasons was that this antibiotic "in vitro" exhibited antiviral activity against the causative agent of the COVID-19 infection. The assumption was that it could be effective at different stages of the viral cycle of SARS-CoV-2 (Echeverría-Esnal et al., 2020). Its immunomodulatory properties include the ability to reduce cytokine production, maintain epithelial cell integrity, and prevent pulmonary fibrosis. Furthermore, the use of azithromycin is associated with a reduction in mortality and the number of days patients spend on mechanical ventilation, which has been observed with the use of this antibiotic in other respiratory infections (Kawamura, 2018). It has been hypothesized that these

characteristics of azithromycin may also be useful in the treatment of COVID-19 infection. Even though in just a few months, based on clinical trials conducted by the WHO, the recommendation for the use of azithromycin and antibiotics in general in the treatment of COVID-19, unless there is evidence of secondary bacterial infection, has been withdrawn, the mass use of antibiotics in most of the world's population is continued under the influence mostly of digital media and social networks.

Reducing the use of antibiotics is the most important measure in the control of antimicrobial resistance (Goossens et al., 2005). WHO has provided guidelines for activities in the control of antimicrobial resistance at the national level through the Global Action Plan on Antimicrobial Resistance, defining the rational use of antimicrobial drugs as one of the five strategic goals (WHO, 2015). The guidelines refer to regulatory measures to reduce and optimize the prescribing and dispensing of antimicrobials and campaigns to improve general awareness and understanding of antimicrobial resistance, both among healthcare professionals and the general population. That is why, by applying systemic measures, it is very important to reduce the consumption of the most often irrationally prescribed antibiotics during the COVID-19 pandemic, i.e., azithromycin, levofloxacin, and cefixime.

Irrational use of antibiotics is most common in the treatment of acute respiratory infections of the upper tract, which in most cases (up to 90%) are caused by viruses. Uncritical administration of antibiotics leads to the development of antimicrobial resistance and ineffectiveness of antibiotics in situations when they are really needed, as indicated by the growing number of hospital infections caused by bacteria resistant to antibiotics (Medic, Bozic & Bajcetic, 2023, Šuljagić et al., 2022). On the other hand, the rational use of antibiotics is the most important measure to control antimicrobial resistance (Mijac et al., 2015), but it must certainly be balanced concerning the availability of life-saving drugs.

7. RESOURCES FOR ACTION IN EMERGENCY SITUATIONS - INFORMATION SECURITY OF THE INSTITUTE OF PUBLIC HEALTH OF BELGRADE

With the accelerated development of IT (Information Technologies), modern society has reached the level of complete e-Communication, that is, the level of instant exchange of all information on a global level. The awareness of how important the data we exchange is and the degree of its vulnerability was not sufficiently clear and defined (Software Engineering Institute, 2023). Protocols for the formation of databases and their exchange did not provide sufficient and high-quality protection of sensitive data from "leakage" and misuse. Especially in the conditions of the COVID-19 pandemic. A significant step forward in data protection is the standardization of ICT (information communication technology) systems. The defined and controlled mode of operation of all elements of the ICT system was published for the first time in 2005 in the form of the ISO27001 standard. Since then, it has had several changes, so the version from 2013 also included the protection of personal data, which was a significant improvement (Institute for Standardization of Serbia, 2023).

The application of this standard is particularly important for operators that are recognized at the level of each country as ICT systems of importance, in which strategic data is generated. The health system, to which the Institute of Public Health of Belgrade (the Institute) belongs, belongs to this group of operators. In the last 20 years, digitalization of the patient's e-Card (disease history) has been carried out, using information systems, but the risk of misuse of this data has increased. The awareness of the risk required the system protection of data containing identification data about patients/persons, but also data about the disease. The Institute has a high awareness of the importance of service quality, as evidenced by the fact that ISO9001 was implemented for the first time in 2006, and the Institute is also certified for ISO14001:2015, ISO/IEC17025:2017 and ISO27001:2014 (Institute for Standardization of Serbia, 2023).

The role of the Institute is to coordinate the activities of public and private health

institutions in Bel-grade, and to do so, it is necessary to collect, store, process, and publish analyzes of the data submitted by these institutions. The Institute's Data Center contains databases from the past 30 years. This data needs to be stored and yet made available for processing, which is a particular challenge. Especially in pandemic conditions.

The COVID-19 pandemic showed us how vulnerable modern society is. The global emergency brought us significant changes in the way we work, such as remote work, which entailed:

- remote treatment of patients (consultations, preventive activities, etc.),
- online teamwork (meetings, sessions, doctors' councils, etc.),
- employee education online.

In this way, the risks are significantly increased, because by opening the communication channels, the database and the entire ICT system became vulnerable. The primary danger was the possibility of "leakage" of data on a global level and the importance of data related to the pandemic. During the pandemic and extraordinary working and living conditions, manipulation of data from the World Health Organization, the pharmaceutical industry, their abuse on the dark net, and financial fraud were commonplace. Electronic patient records were highly sought after on the dark net (MOS, 2023). Thus, ICT systems, i.e., databases, became the target of hackers.

The primary goal of emergency management is to mitigate and reduce the vulnerability of databases (which contain confidential patient health information and patient identification information). This can be achieved through organized and effective activities. The approach must be systemic, through planning, organization, coordination, and control (Rose et al., 2017). Legal regulations define measures, responsible legal and natural persons, and areas of social activity that are obliged to carry out preventive activities, assessment, planning, and managing emergency situations (DeFilippis et al., 2022). In the second decade of the 21st century, several laws were passed in Serbia regarding information security and digitalization, which defined the responsibility of individuals, collectives, and the state. Hospital information systems (HIS) are recognized as systems of social and strategic importance. A state body for supervision and control of the implementation of data and information protection - CERT (National CERT of the Republic of Serbia, 2023) was formed. The Law on Protection of Personal Data (General Data Protection Regulation - GDPR) is in force, and since 2004 there has been a Commissioner for Information of Public Importance and Protection of Personal Data in Serbia. The application of ISO27001 at the level of the Institute and all controls for data and information security enabled systemic protection of all components of the ICT System (IPHB, 2023). The accelerated application of digitization and conversion of paper documents into electronic documents is a direct impact of the COVID-19 pandemic.

7.1 Operational activities carried out immediately before and during the COVID-19 pandemic

In the Institute of Public Health of Belgrade, immediately before and during the pandemic, the following operational activities were carried out:

- Enhanced security by implementing modern antivirus software and improving hardware and software at the ICT system level;
- Improved the existing Data Center (hardware, software, digital card access);
- Employee education was carried out as a preventive activity - raising the awareness of employees and vendors is an important link in the security chain;
- Active participation of employees in data security risk assessment was introduced. Responsible/authorized persons have been appointed, who possess administrative,

operational, and organizational skills and the knowledge necessary for their implementation (they are certified for external and internal monitoring ISO 27001);

- Documentation was created (work procedures and instructions, ISMS - information security management system <https://www.techtarget.com/whatis/definition/information-security-management-system-ISMS>) which is available to all employees via the intranet, in accordance with the Access Rights Matrix (based on the job description) and the Instruction on the categorization of information and documents.
- Strategic and operational documents were created: the Institute's data security strategy for the period 2020-25, operational plans on the security of ICT systems on an annual level, a plan for preventive activities from the aspect of data security, plans for working in emergency conditions, a business continuity plan (Business Continuity Plan), Act on the security of ICT systems, SoA (Statement of applicability). Increased monitoring and evaluation;
- GAP analysis and PEN test are conducted for 2 years;
- The "empty table and desktop" policy has been fully implemented.

Although there is no ICT system that is 100% protected, by applying all measures, data security has been significantly improved, the quality of the Institute's services in emergency situations has been improved, and the good position of the institution has been secured. The COVID-19 pandemic significantly accelerated the digitization of the Serbian healthcare system and raised global awareness of information security.

8. CONCLUSION

The presented educational and advisory activities intended for professionals and the general public via remote, i.e., "online" access, proved to be an adequate replacement for lectures and face-to-face communication that was practiced in previous years, and which due to epidemiological measures during the COVID-19 pandemic was not feasible.

The biggest perceived advantages of conducting "online" education and counseling, regardless of the profile of participants or users of services, were: flexibility in conducting education, saving the time required for traveling to and from the place of conducting education or counseling, a noticeably larger number of participants present at online education. The biggest challenge in holding "online" education was of a technical nature, and it meant the availability of digital devices and adequate internet connection for listeners, that is, users of services. The problems that also came to the fore are the digital literacy of the users, the impossibility of adequate monitoring of the participants, and the lack of interaction present at classic gatherings, which was primarily reflected in the deficit of non-verbal communication. Information through social networks was very prevalent during the pandemic, information was spread quickly and often without the control of an expert, which represented a great danger, and some of the consequences will be visible in the future (e.g., recommendations for the irrational use of antibiotics and the resulting antimicrobial resistance).

However, if we summarize all the positive and negative aspects of the conducted education and counseling using digital technologies, we can conclude that this type of communication is quite effective and that it would be desirable to apply it, not only in the current epidemiological situation but also after it ends. and extend it to other population groups with topics adapted to the profile and needs of listeners and service users. At the same time, it is necessary to work on digital literacy, both for the general and the professional public, so that as many users as possible can use this type of communication, which, in the future, with the development of science and technology, will become a standard, if not the leading way of communication and transfer of

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