A digital plan for elderly institutions: a preliminary survey

Um plano digital para instituições de idosos: uma pesquisa preliminar.

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Portugal is one of the oldest countries in Europe and the World. Regarding info-exclusion, all national and international studies report that the elderly is the most *infoexcluded* social group. The pandemic that we are still experiencing has made confinement measures quite restrictive at the level of institutions for the elderly. Isolation worsened and socio-emotional disturbances worsened the quality of life of the elderly. This preliminary study aimed to investigate the existence of a digital plan that can reverse these constraints. The focus groups carried out in three institutions for the elderly in the district of Castelo Branco (Portugal) with directors, caregivers, psychologists, and physical activity therapists, showed a great lack of knowledge regarding the digital area for the elderly. The researchers presented some suggestions in the focus groups that were accepted: a robust Wi-Fi network for the entire institution; digital training for staff in apps related to cognitive training, motor training, and social networks; apps related to video calls; creation of a digital space in the institution so that all seniors can access and use digital resources for free.

Digital plan. Elderly. *Infoexclusion*. *Infoinclusion*. Portugal.

Portugal é um dos países mais antigos da Europa e do Mundo. Em relação à *infoexclusão*, todos os estudos nacionais e internacionais relatam que o grupo social mais infoexcluído é das pessoas idosas. A pandemia tornou as medidas de confinamento bastante restritivas ao nível das instituições para idosos. O isolamento piorou e os distúrbios socioemocionais pioraram a qualidade de vida dos idosos. Este estudo preliminar teve como objetivo investigar a existência de um plano digital que possa reverter esses constrangimentos. Os grupos focais realizados com diretores, cuidadores, psicólogos e fisioterapeutas de três instituições para idosos do distrito de Castelo Branco (Portugal) evidenciaram um grande desconhecimento da área digital para idosos. Os pesquisadores apresentaram algumas sugestões nos grupos focais que foram acatadas: uma rede Wi-Fi robusta para toda a instituição; treinamento digital para funcionários em aplicativos relacionados a treinamento cognitivo, treinamento motor e redes sociais; aplicativos relacionados a videochamadas; criação de um espaço digital na instituição para que todos os idosos possam acessar e utilizar os recursos digitais gratuitamente.

Plano digital. Idoso. *Infoeclusão*. *Infoinclusão*. Portugal.

Portugal and the elderly: age structure and *infoinclusion*

In the last decade, the gap between young and old has widened. The percentage of young people fell from 16% in 2001 to 15% in 2011. In the elderly population, there was an inverse movement, having gone from 16% in 2001 to 19% in 2011. In particular, the centre region of Portugal, where the Castelo Branco district is located, has a value of 22% (INE, 2012). Figure 1 presents the age pyramid of the Portuguese resident population by sex, 2001 and 2011:

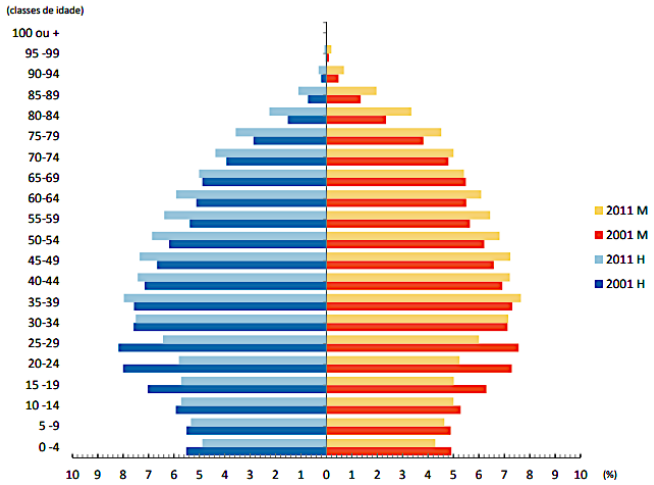

Figure1 I Age structure of the resident population by sex, 2001 and 2011 (INE, 2011).
Note: Regarding the aging rate, according to INE (2012), the value was 102.23 in 2001 (male: 83.56; female: 121.78) having increased in 2011 to 127.84 (male: 104.77; female: 151.98).

As there is still no final publication of the 2021 censuses carried out in Portugal, only some provisional data can be presented. The phenomenon of population aging has also worsened, with the expressive increase in elderly population and the decrease in the young population: in 2021 there are 182 elderly people for every 100 young people. Figure 2 presents the aging rate by the various regions of Portugal. For this purpose, the highest value in the centre region is highlighted, which includes the Castelo Branco district, with a value of 220 elderly people for every 100 young people. Figure 2 also shows the substantial increase in the aging rate in Portugal between 2011 and 2021.

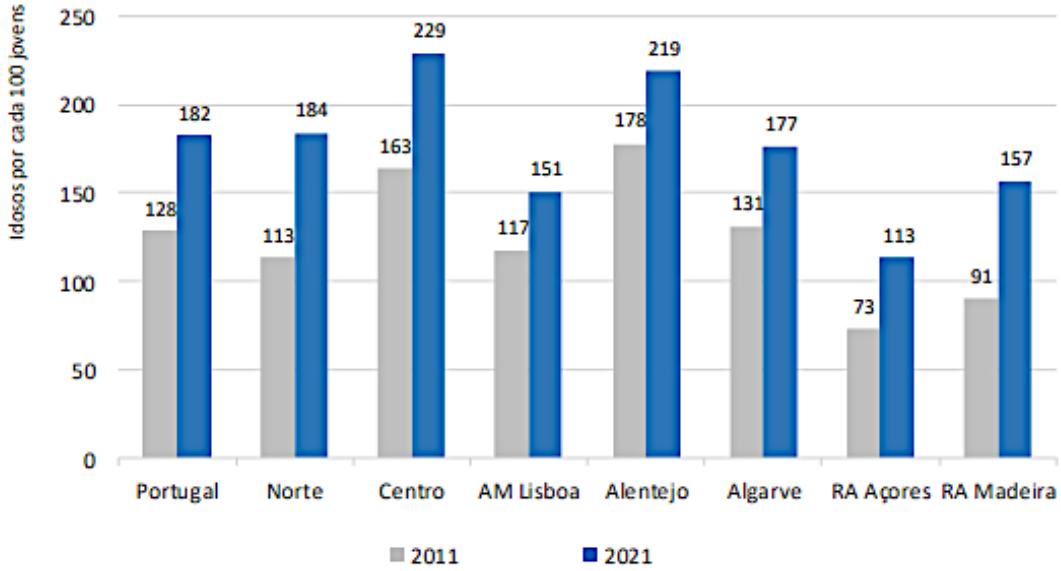

Figure 2 I Aging rate, 2011 – 2021, by the different Portuguese regions. Source: INE (2021).

In another dimension associated with the levels of use of digital technologies, it is important to have a clear vision regarding the levels of info-inclusion and info-exclusion of Portuguese citizens. As can be seen in Figure 3, the younger age groups are those with the highest values of *infoinclusion* (16-24 years old: 99,5%; 25-34 years old: 98.2%; 35-44 years old: 95.7%). Then we can see a drop for the age group between 55-64 years old, with a value of 65.3%, which means that a third of this population is *infoexcluded*. However, the data related to the age group of 65-74 years is much more serious given that it only presents the value of 39.0%. This figure means that approximately only one third of these citizens are info-included.

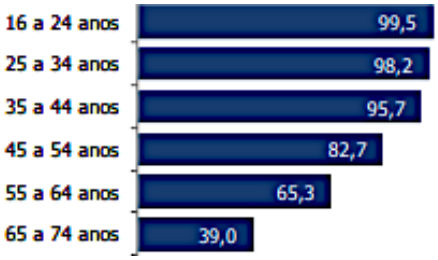

Figure 3 I Proportion of people aged 16 to 74 who digital resources. Source: INE (2020).

In 2020, the total number of residential homes in Portugal was 2568, which corresponded to a total of 300,000 elderly people (GEP, 2020). In global terms, official data indicate that in 2020 there was a usage rate of 72.5%. This figure indicates that a large majority of the elderly use social facilities that take the form of home support and, in other cases, institutionalization.

Bearing in mind that we have an increasingly digital society, we must adapt our routines to a digital context. Figure 4 shows the number of internet users which includes the countries where this use is more significant. For this purpose, Portugal is included, which has a value of 7.3 million for a total of 10,500 inhabitants, which means that this difference of about 2 million corresponds to the elderly who do not use the internet (Figure 4).

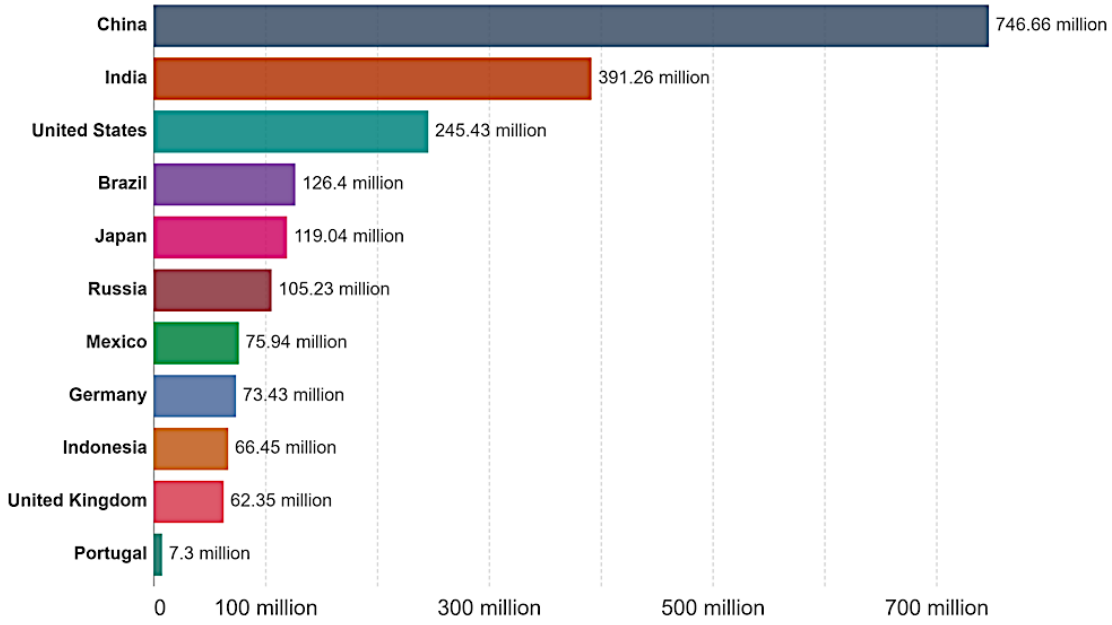

Figure 4 I Worldwide internet users. Source: https://ourworldindata.org (2021).

Increasingly, the population assumes digital behaviours related to the use of platforms associated with e-Government, e-Health, e-Commerce, and different forms of leisure, not to mention the most obvious that corresponds to access to different sources of information. But, of course, for those who are info-included, for those who can access it and for those who know how to use the internet. But, of course, for those who are info-included, for those who can access it and for those who know how to use the internet. The problem lies with those info-excluded citizens who cannot access or exercise full citizenship. Considering the data presented and the illustrations in the figures, it is easy to understand that the elderly constitute a group of citizens who cannot exercise full citizenship and that digital exclusion can lead to the elderly being socially excluded. According to the data presented and the illustrations in the figures, it is easy to understand that the elderly constitute a group of citizens who cannot exercise full citizenship and that digital exclusion can lead to the elderly being socially excluded.

Since there is a significant number of elderly people in institutions, it was felt the need-to-know what strategies and/or initiatives these institutions for the elderly must create a digital context and respective opportunities for info-inclusion.

Empirical intervention

Because the researchers lived in the district of Castelo Branco and that it was easier to collect data, different institutions for the elderly were contacted and responses were received from three institutions located in rural areas (DIOGO, 2022). Another reason that supported the empirical intervention in the district of Castelo Branco also considered the fact that it is one of the oldest areas in Portugal.

In practice, the research must be considered of a qualitative nature that includes a multiple case study that was carried out in 2020/21.

i. Brief description of the institutions involved (I1 – I2 – I3)

Institution 1 (I1) was created in 1997 and in 2020 it has 26 professionals who treat a total of 72 users. Services include the preparation and distribution of meals, hygiene and personal comfort care, treatment of clothes, performance of external services (purchase of personal goods, medical appointments) socializing and entertainment activities.

Institution 2 (I2) was created in 1983 and in 2020 through the collaboration of 45 professionals it supported a total of 129 users. Services include meals, personal hygiene care, laundry care, surveillance, medical and nursing care, entertainment activities, religious services, and transport services.

Institution 3 (I3) was created in 1992 and in 2020 it had 21 professionals who supported 27 users. Services include meals, personal hygiene, medical and nursing support, entertainment, and leisure activities.

ii. Research: participants, research question, and research tools

In the case of this research the option was for a "sampling for convenience" that is included in the technique of non-probability sampling.

The research question that guided the research was the following: "What is the importance that professionals give to the use of technologies and digital applications in the daily lives of institutionalized elderly people in a situation of pandemic in a rural context?" The research question was focused on professionals/caregivers because at the time of the research, there was a period of confinement and there was no possibility of having direct contact with the elderly users of the institutions. In this sense, given the circumstances, we opted for the vision and opinions of professionals/caregivers. In I1, the following professionals were involved: director; nurse, physical therapist; caregiver. In I2, the following were involved: director; nurse; physical activity coach. Lastly, at I3 were involved; director; nurse; caregiver.

In a first phase, a semi-structured interview was carried out with each of the participants to involve and motivate them towards the problem. The interview guide included the following dimensions: in dimension 1, the interview was contextualized; in dimension 2, the profile of the interviewee was obtained; with regard to dimension 3, it was intended to collect opinions related to the uses they made of digital technologies in personal and professional terms within the institution; regarding dimension 4, the objective was to know the opinions regarding the use of digital technologies by the elderly; in dimension 5, it was intended to find out what are the main potentialities in the use of digital technologies in a period of pandemic; finally, Dimension 6 intended to collect proposals for a digital plan in an institution for the elderly. The interviews were recorded and transcribed in full. After the transcription, a content analysis was performed from which inferences were extracted that led to the next step with the realization of the Focus Group. The purpose of the Focus group was to provide the possibility of sharing the opinions of different professionals, each one with its own specificity, to establish a discussion based on different points of view. In other words, there was the intention of listening to individual opinions so that later, in a collective space, they could find commonalities and explore divergent points.

Data analysis: content analysis and main inferences

i. Main inferences from the semi-structured interviews

In general, all professionals consider that the use of technologies digital, proves to be useful and essential, both at a professional and personal level, being considered as an asset in the performance of their duties in the institution. Although they understand not to be completely replaceable, they are shown to be necessary, useful, and essential for users to carry out their functions, essentially in a pandemic context. On the other hand, and despite considering that in fact, technologies are important and likely to help the elderly, add that, for the typology of elderly that integrate institutions, digital technologies may not prove to be adequate, given that many of them are illiterate and/or come from a previous generation, who do not is used to digital technologies because throughout her life everything has been carried out without resorting to these resources. The lack of familiarity and the use of digital technologies in their routines makes them not valued. Globally and at an affective level, they highlight as main advantages, the cognitive stimulation and motor skills of the elderly, as well as the ease of communication, allowing the approximation with family and friends, suppressing, or alleviating the affective lack, with a positive impact on the quality of life of these institutionalized elderly people, who end up leaving their comfort zone, to in this way access new horizons, helping to combat loneliness.

They also refer to the importance of creating their own spaces, which computers and tablets with game applications installed for the elderly to handle. In general, institutions have spaces where they could these initiatives can be developed, not having, however, the equipment and necessary means. The problem arises that there are computers, but only for the usufruct of professionals and, even so, without transversal access to the universe of contributors.

They identify, however, as the main constraints to the implementation and use of digital technologies, the issue of lack of human and financial resources, the lack of training and information on the part of the elderly population and those who care of these. In fact, professionals show some reluctance, as they are not familiar with the issue of the direct and indirect implications of implementing a digital plan within your institution, as these are recent, innovative solutions and little experienced.

Although we live in a digital age, the elderly population was not prepared by the society for this evolution, showing itself to be resistant, with a weak propensity to digital technologies.

In conclusion, we can say that digital technologies were not incorporated into the lives of these institutionalized elderly people and that the pandemic has changed partially this paradigm. They consider that 10 - 15 years from now it would be more appropriate to introduce digital technologies into the lives of the elderly, already coming from a different generation, living in a digital world and, consequently, more accustomed to handling technologies, thus facilitating the action of institutions in the concerning the introduction of these in the day-to-day of the elderly.

They generally agree that soon, it will be of paramount importance, the existence of tablets, computers, and other equipment capable of incorporate applications and software (such as Ankira) that help and make life easier of the elderly, in the cognitive aspect. It is a gradual process, which will have to be worked together, overcoming obstacles, and reaching goals step by step, with a view to change. The current context of a pandemic has demonstrated the ability to adapt and change of the elderly to digital technologies, which allowed the approximation to families, lessening the feeling of loneliness, without intending at all, to replace affection and face-to-face and direct affection through a screen. We must believe that together we can do better.

ii. Main inferences from the Focus Group

From the discussion the main advantages of the use of digital technologies are: 1. The quality of life for the elderly, which they understand to be a benefit important. However, considering the type of user and the capacity that the even presents to interact with technologies. Otherwise, the benefit may become an embarrassment for the elderly. 2. The quality of life of the elderly, which helps to prevent loneliness, inactivity, keeping the elderly busy and motivated in their daily lives. 3. All interviewees mention the possibility of carrying out video calls during a pandemic, so that the elderly can establish contact, even if only visually, with their families. As a disadvantage: The lack of human and financial resources, the lack of professional's specialists to help in this initiative, in addition to the low level of education and limitations that come with age, such as difficulty seeing, hearing and mobility.

Regarding the situation of the covid 19 pandemic and, in view of this situation, what was done by professionals to integrate digital technologies, in an institutional and elderly dimension. The height of the covid 19 pandemic was not easy for anyone, leading to the need for a quick reaction on the part of professionals, to find alternative solutions, without harming their users on an emotional level, while also preserving the balance of employees per se in the relationship with the others. This need for readjustment translated into:

1) In the implementation of the video call system, using the personal equipment of professionals, so that family members and users could
2) interact, overcoming loneliness and homesickness.
3) There was acceptance and adaptability on the part of most of the elderly people who were pleased with the "innovation". Exception for those with dementias and/or disabilities that impede the perception of reality and their respective behavioural changes resulting from the pandemic.

Understand the digital vision of each technician and their contribution to the implementation of a digital plan: institutional dimension and the elderly. Institutions have shown interest in:

1) In creating spaces, rooms with computers, tablets connected to the internet, providing access to applications, interactive games, stimulation cognitive software/apps.
2) Despite the importance of these activities, it is important not to overlook the interests of users, which differ from each other, as well as possible limitations in the handling a tablet or computer.

In terms of a final balance, there is consensus on the importance of digital technology whose valuation by professionals and users will occur gradually, following the evolution of future generations. It must be based on an effort society, in changing mentalities and in another way of thinking about old age, and the use of digital technologies should be understood as a complement well-being, always giving priority to physical presence, contact and demonstrations of affection, everything that will never be replaceable.

Main conclusions and clues for the future

Considering the opinions of professionals regarding the use of technologies by the elderly, it can be said that:

- the biggest advantage identified by professionals is the communication with family members (video calls), a situation more relevant if we consider the context of a pandemic.
- digital technology is of the utmost importance in cognitive stimulation, considered by professionals as central in the life of the elderly.
- the lack of human and material resources, gaps in the training of collaborate in terms of digital technologies, as well as the low level of education of the elderly (illiterates), these factors turn out to be obstacles to the use and integration of digital technologies into routines of the elderly.
- the fact that the pandemic existed forced the use of technologies with the elderly because, if this had not occurred, some professionals are of the opinion that technologies may not be so decisive for the improvement in the quality of life of the elderly.
- following the inference presented above, it is also felt a strong lack of knowledge regarding the use, of digital technologies with the elderly, which led to their opinions have not been sustained.

In the use of digital technologies with the elderly during the pandemic confinement, the main conclusions were the following:

- about the initiatives carried out by professionals regarding the use of digital technologies with institutionalized elderly people, considered which was an asset for the elderly, who ended up adapting to the context they were experiencing, with emphasis on the video calls that made it possible to promote contact with their relatives and friends.
- some very emotional situations stand out, and others with less impact, due to limitations due to age, for not hearing as much well, because they don't see so well, because of the existence of some dementias, which made it difficult to understand what was happening
- was positive for most users, as they had the opportunity to see and talk to the families, even if the hug, the kiss, and

the contact physical, it was possible to fill a little the affective lack caused by the distance.

- it is not intended that the use of digital technologies assume a substitute for the presence and visits of family members, but which may be a complementary possibility and that in some situations enable communication that would not otherwise be possible, lessening the distance and, at the same time, reducing feelings of isolation and loneliness.
- in general terms, this objective was achieved because in a situation of pandemic professionals have integrated digital technologies into the institutional care with the elderly, having been an asset to all professionals and for the elderly who felt very emotional and comforted by being able to talk to their families, albeit through screens, although it can be considered a more 'elementary' use and that was repeated across the country.

Regarding the potential impacts of digital technologies on the quality of life of the elderly, it can be concluded that:

- overall, the professionals agree that it could be beneficial to use more widespread use of technologies because they can help address the loneliness, helps them get out of their 'comfort zone', which access new horizons and new contexts and challenges, in the sense of stimulate the cognitive component, thus allowing them to feel capable and more confident of new initiatives.
- most professionals focus on the importance of knowing each user, its characteristics, its needs, its interests, and its ability to interact with digital technologies, so that the that could be an advantage does not become a disadvantage, because, in case of incapacity, lack of will or lack of knowledge that can generate levels of subpoena, demotivation that can affect the elderly self-esteem.
- professionals share the opinion that, soon, the new generation of seniors will have a greater propensity and a greater benefit in the use of technologies because they have already had a greater exposure to technologies, of having used them for professional and personal purposes and, this way, digital technologies are already integrated into their routines daily.
- there was a great lack of knowledge on the part of the professionals, regarding digital technologies about their use concrete relationship with the elderly, so they did not feel confident in proposed measures, proposals, and initiatives for a digital plan institutional. What, in fact, it may not have allowed to achieve in full the goal.

In general terms, it can be said that the results of the investigation carried out in the three institutions allowed to obtain some clues associated with the objectives formulated, despite not feeling consistency and/or certainties in the different opinions that were collected. It was found that they have not yet been used, digital technologies profitable as they could be because also that such occurred due to lack of knowledge on the part of professionals, given that it was a reality that they did not master, were also taken by surprise in this process and the only digital tool used was video calls. These video calls were made with employee equipment, not equipment of homes, nor of the elderly themselves, which means that we still must create conditions and present proposals, even outside the times of a pandemic, so that this elderly can take advantage of digital technologies to promote and create better conditions for their active and healthy aging.

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Apêndice

Reimpressões e permissões

Informações sobre reimpressões e permissões estão disponíveis no site da RBCEH.

Informações da revisão por pares

A RBCEH agradece ao(s) revisor(es) anônimo(s) por sua contribuição na revisão por pares deste trabalho. Relatórios de revisores por pares estão disponíveis no site da RBCEH.

Resumo do relatório

Mais informações sobre o desenho da pesquisa estão disponíveis no site da RBCEH, vinculado a este artigo.

Conflitos de interesses

Os autores declaram não haver conflitos de interesses.

Correspondência

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