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The use of computer tools by the elderly of a Center of Reference and Citizenship for the Elderly

UTILIZAÇÃO DE FERRAMENTAS COMPUTACIONAIS POR IDOSOS DE UM CENTRO DE REFERÊNCIA E CIDADANIA DO IDOSO

UTILIZACIÓN DE HERRAMIENTAS INFORMÁTICAS POR ANCIANOS EN CENTRO DE REFERENCIA Y CIUDADANÍA DE LA TERCERA EDAD

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ABSTRACT

The objective of this exploratory, descriptive study was to identify the use of computer tools by a group of elderly users of a Center of Reference and Citizenship for the Elderly in the city of São Paulo. Among the 55 subjects, it was found that 33 (60.0%) have a computer at home, 42 (76.4%) referred having taken a computer course; 22 (58.2%) have been using the computer for less than two years, and 40 (85.5%) use the tool for up to two hours a day. The most used communication tools were: e-mails by (41; 75.0%), instant messaging (25; 45.0%), dating websites (17; 31.0%). The reported purposes for using technology tools were: to update and obtain information, for research, for fun, and to talk to relatives and friends. In conclusion, nurses should be aware of this technological profile that is being outlined among the elderly population and search for ways to include computer tools in the care provided to this group.

DESCRIPTORS

Information technology
Aged
Nursing informatics

RESUMO

Este estudo exploratório descritivo teve como objetivo identificar o uso de ferramentas computacionais por um grupo de idosos de um Centro de Referência e Cidadania do Idoso do município de São Paulo. Entre as 55 pessoas pesquisadas, foi evidenciado que 33 (60,0%) possuem computador em casa, 42 (76,4%) idosos afirmaram ter realizado curso para utilizar o computador, 22 (58,2%) usam o computador há menos de dois anos e 40 (85,5%) idosos usam a ferramenta por até 2 horas por dia. As ferramentas de comunicação mais usadas foram 41 (75,0%) correios eletrônicos, 25 (45,0%) comunicadores instantâneos e 17 (31,0%) sites de relacionamento. As finalidades de uso das tecnologias foram atualização e informação, pesquisas, diversão e comunicação com parentes e amigos. Conclui-se que o enfermeiro deve estar atento a este perfil tecnológico que se desenha junto à população idosa e buscar formas de inserir as ferramentas computacionais para auxiliar na assistência a este grupo.

DESCRIPTORES

Tecnologia da informação
Idoso
Informática em enfermagem

RESUMEN

Estudio exploratorio, descriptivo, que objetivó identificar el uso de herramientas informáticas por grupo de ancianos de un Centro de Referencia y Ciudadanía de la Tercera Edad del municipio de São Paulo. Entre los 55 investigados, se determinó que 33 (60%) poseen computador en casa; 42 (76,4%) ancianos refirieron haber realizado cursos de computación; 22 (58,2%) usan computadoras desde hace menos de dos años y 40 (85,5%) ancianos usan la herramienta por hasta dos horas diarias. Las herramientas de comunicación más utilizadas fueron: correo electrónico (41 sujetos, 75,0%), comunicadores instantáneos (25 sujetos, 45,0%), redes sociales (17 sujetos, 31%). Las finalidades del uso de tecnologías fueron actualización e información, investigaciones, recreación y comunicación con parientes y amigos. Se concluye en que el enfermero debe estar atento a este perfil tecnológico que atrae a la población mayor y buscar formas de insertar las herramientas informáticas para ayudar en la atención de este segmento.

DESCRIPTORES

Tecnología de la información
Anciano
Informática aplicada a la enfermería

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INTRODUCTION

Computers have evolved from calculating machines to machines that transfer information by being interconnected through a network. Today, the capacity to process and store data is moving from computers to cyberspace, where the complete connection of several types of devices and technologies occurs by means of digital convergence and, thus, information is transferred in real time.

In the present setting, computers have a direct and indirect participation in people's everyday lives, being used as a tool either at work, for leisure, or to store and provide data through the Internet, which contributes to the emergence of a new way to process and communicate information.

With the implementation of Internet, individuals who do not use computers as frequently have drawn more attention, and they are referred to being in *digital exclusion* *excluídos digitais*. This exclusion is usually related to a low poder aquisitivo and age. However, some studies identify that the elderly have been seeking their digital inclusion⁽¹⁾.

Nowadays, we live a culture of informatics, the civilization of information with the appearance of a new time, the accumulation and processing of information, the reformulation of knowledge, and changes in behavior, sensitivity and intelligence⁽²⁾.

Information is an asset, something of value; it is an essential instrument for social, economic, and professional development, whether it is transmitted orally, in writing, or through body expressions. Information does not regard a cluster of *bytes*; rather, it is a group of data classified and organized so a person or company may make good use of it⁽³⁾.

One may consider that the essence of the Internet is summarized to the high-speed transmission of information in its electronic form with a high level of collectivity, presenting an incomparable opportunity to access and share information, thus generating knowledge⁽⁴⁾.

In view of the current overwhelming evolution of technology, aged individuals should empower themselves of the technological means to use them to assign old age a new image, becoming participative and active citizens of the knowledge society and not only a passive spectator who uses resources that others have created.

To do this, it is necessary to identify the profile of the elderly population who use computers and computer tools, know the reality of this specific growing parcel of the population in terms of having access to the computer and information networks, and for what reasons they use the computer and the Internet. This knowledge will allow for developing public policies that aim at the development and acquisition of technical skills that permit the

elderly to enjoy not only moments of leisure as well as their citizenship, as well as prevent diseases, and care and maintain their health.

Nurses have an important role in providing care to the elderly, not only regarding geriatric issues, but mainly in gerontological care, considering that this field is more and more becoming a setting for nursing practice. Therefore, using computers and computer tools can contribute to implementing the healthcare, follow up and guidance of the elderly from a distance.

OBJECTIVE

To identify how a group of elderly individuals uses computer tools at the *Telecenter* of the Center for Reference and Citizenship of the Elderly (*Centro de Referência e Cidadania do Idoso* – CRECI).

METHOD

This is an exploratory, descriptive study performed using a quantitative approach.

...using computers and computer tools can contribute to implementing the healthcare, follow up and guidance of the elderly from a distance.

An exploratory study aims at providing a better familiarity with the addressed issue with a view to making it evident or to create hypotheses. Therefore, it may involve bibliographic surveys, interviews with people experienced in the studied problem, a bibliographic or case study. A descriptive study aims at describing the characteristics of a given population or phenomenon or the relations established between the variables.

This type of research involves using standardized techniques for data collection, such as a questionnaire and systematic observation⁽⁵⁾.

This study is a part of a larger project named *Tecnologia e qualidade de vida do idoso* (Technology and quality of life of the elderly), which was approved by the Research Ethics Committee of Universidade Cidade de São Paulo (UNICID), thus complying with Resolution 196/96 of the National Health Council regarding studies with human beings.

The study location was the Center of Reference and Citizenship of the Elderly (CRECI), located in the city of São Paulo, where a telecenter was created.

The CRECI works in association with the São Paulo Municipal Social Care Department, and offers workshops that include social, educational, and healthcare activities for approximately 2,700 elderly users⁽⁶⁾.

The CRECI Telecenter offers technology courses for the elderly. It is a public location with the purpose to provide access and the use of information available on the network, in order to develop the required skills to use com-

munication and information technologies, and reduce the socioeconomic disparities and develop citizenship⁽⁷⁾.

The target population consists of 55 elderly individuals who attended the CRECI Telecenter during the months of May and July 2010, who agreed to participate in the study by signing the Informed Consent Form.

Data collection was performed using a questionnaire designed specifically for this purpose, containing questions related to the profile of the elderly users, containing variables related to their age, gender, education level, profession, current occupation, in addition to 16 questions (two open and 14 closed) related to computer use.

Data analysis was presented as the frequency and percentage of answers.

RESULTS

Characterization of the population

Of the 55 elderly subjects, we found that, regarding the gender, 32 (58.2%) are male and 23 (41.8%) are female.

Figure 1 shows the distribution of the elderly users according to age groups.

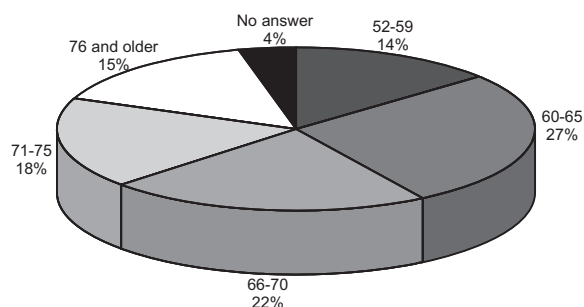


Figure 1 – Distribution of the elderly according to age (N=55) - São Paulo - 2010

The subjects' age ranged between 52 and 87 years, with a mean 66.8 years, with most (15; 27.0%) in the age group of 60 to 65 years. Regarding their marital status, 25 (45.5%) are married, and 14 (25.5%) are single, 11 (20.0%) are separated/divorced, and five (9.0%) are widowed.

Figure 2 presents the distribution of the elderly according to the education level.

Figure 2 shows that, regarding the education level, most subjects (27; 49.0%) had completed secondary education, followed by 10 (18%) who had incomplete higher education.

To identify their professional profile, the Brazilian Classification of Occupations (*Classificação Brasileira de Ocupações* - CBO)⁽⁹⁾ was used. Of all subjects interviewed, 10 (18.2%) graduated in the fields of science and arts (engineer, lawyer, accountant, teacher, nurse); eight (14.5%)

were workers in the production of goods and services (mason; weaver; drivers); eight (14.5%) are homemakers; six (10.9%) worked in administrative jobs (office clerks; bank clerks; public worker); five (9.1%) were secondary level technicians (nurse's aides; nursing technicians; massage therapist), and 11 (20.0%) did not answer.

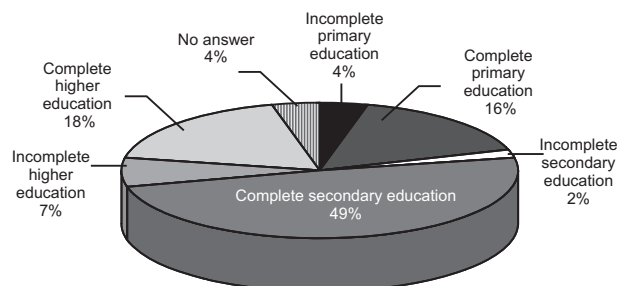


Figure 2 – Distribution of the elderly according to the education level (N=55) - São Paulo - 2010

Furthermore, 44 (80.0%) subjects are retired, 10 (18.2%) are not retired, and one (1.8%) did not answer.

Thirty-one subjects (56.4%) do not have a job, 18 (32.7%) reported having a job, and six (10.9%) did not answer.

Regarding their housing situation, 33 (60.0%) reported owning their home, 15 (27.3%) lived on rent, four (7.3%) lived with relatives, one (1.8%) lived in a son's house, one (1.8%) in a Long Stay Institution for the Elderly, and one (1.8%) did not answer.

Characterization of how a group of elderly individuals use computer tools

Regarding the fact of having a computer at home, 33 (60.0%) participants reported they did, and 22 (40.0%) reported they did not.

Of the 33 subjects who reported having a computer at home, 21 (63.7%) affirmed they owned the computer; seven (21.3%) reported the computer belonged to their child; three (9.0%) did not answer how owned the computer; one (3.0%) informed the computer belonged to the Long Stay Institution for the Elderly, and one (3.0%) reported the computer belonged to another relative.

Also among those reporting having a computer, 24 (73.0%) use the computer at home; three (9.0%) stated they used a computer at home and at work; two (6.0%) used the computer only at work; one (3.0%) use the computer at work and at a cybercafé and three (9.0%) reported not using the computer at home. It was observed that, regarding the sample who reported using the computer only at work and at a cybercafé, and those who reported not using the computer at home, the computer they mentioned existing at home belonged to either one of their children or another relative.

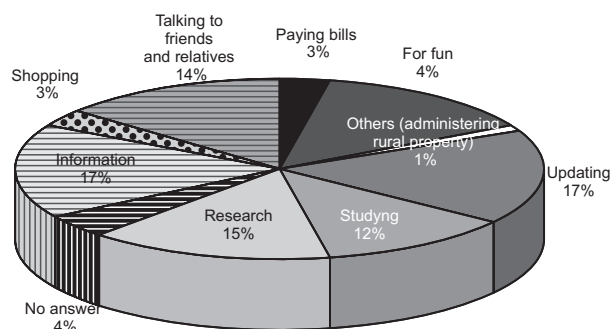


Figure 3: Distribution of the elderly according to the purpose of using the computer (N=55) – São Paulo – 2010

Regarding the purpose of using the computer, more than one answer was obtained per subject, adding up to 169 answers. Keeping updated and obtaining information were the main purposes reported by the subjects – 29 (17.0%), followed by research, pointed out by 26 subjects (15.0%) and having fun and talking with friends and relatives, reported by 23 subjects (14.0%). Using the computer to study was reported by 20 (12.0%) participants; shopping and paying bills was reported by six (3.0%) users for each modality, and seven (4.0%) did not answer.

Regarding the time that the subjects spend every day to using the computer, it was found that 40 (85.5%) subjects use the computer for up to two hours a day; six (10.9%) to up to four hours; two (3.6%) use the computer for until ten hours a day, and seven (12.7%) did not answer.

In terms of the part of the day the subjects use the computer, 20 (36.4%) use it in the morning; 10 (18.2%) in the afternoon; 10 (18.2%) at night; eight (14.6%) use the computer in more than one period, and seven (12.7%) did not answer.

When subjects were asked about how long it has been since they started using the computer, 22 (58.2%) reported they have been using the computer for less than two years; seven (12.8%) for up to four years; seven (12.8%) up to six years; three (5.5%) up to eight years; three (5.5%) up to ten years, and three (5.5%) more than ten years.

Regarding how they learned to handle the computer, 42 (76.4%) reported having taken a course; three (5.5%) learned with their child; three (5.5%) learned at work; two (3.6%) learned alone, and five (9.1%) did not answer.

The communication tool most used by the elderly was the e-mail – 41 (75.0%), followed by instant messengers – a total of 25 (45.0%) users distributed among *MSN®Messenger* – 14 (24%), *Yahoo!®Messenger* – eight (15.0%), and other three program (6.0). Seven participants (13.0%) reported using communication rooms, distributed between chat rooms (six; 11.0%) and chat rooms and chat (one; 2.0%).

Four (8.0%) reported using Internet telephone software (VoIP), which was the least used tool, distributed among *Skype™* – two (4.0%) and *Yahoo®* – one (2.0%), and not informed – one (2.0%). Regarding the social networks for personal and professional relationships, personal relationship websites were the most used, by a total 17 participants (31.0%), 15 (27.0%) of which use *Orkut* and one (2.0%) used other networks; four (8.0%) users reported using *Blogs*, *Flogs* and *Moblogs*.

Regarding browsers, there was an expressive use, by 48 (87.0%) participants, distributed between *Google™* – 33 (60.0%), *Yahoo!®* – five (9.0%), *Google™* and *Yahoo!®* – three (5.0%) *Google™* and *MSN®Search* – two (4.0%), *Google™*, *Yahoo!®* and *MSN®Search* – three (5.0%), and others – two (4.0%).

The participants were also asked about their use of Virtual Learning Environments (VLE), and 13% (seven) reported using or having used this tool.

DISCUSSION

It is unnecessary and unusual to report study results as numbers in the discussion section; one should review the data without making numerical references.

The characterization of the population regarding age groups is similar to that of a previous study⁽⁸⁾ that also identified that the mean age of the elderly population using the Internet was 66.5 years, ranging between 60 and 77 years.

The fact that it was found that 14% (8) of mature adults aged between 52 and 59 years, who attended the CRECI, led to a reflection concerning the population that approaches senescence in terms of maintaining their quality of life focused on activities that stimulate cognition, and not only the motor activity. Based on this information, detecting adults that prepare for aging and elderly individuals that exchange playing cards and bingo, and tricot needles for the computer reaffirms the change of paradigms towards the construction of a new image of old age.

Another study investigated how elderly individuals use computers. It compared owning a computer across socio-economic classes, and found that in classes AB, 83% of the elderly individuals had a computer at home. Among them, 21% reported owning the computer, while among individuals of classes CD only 12% had a computer at home, and 7% reported they owned the computer⁽¹⁰⁾. These data confirm the evidence found in the present study and lead to the question addressing the digital abyss between social classes.

Reducing the digital abyss is a global concern, and the obstacles to be overcome so that people can change their social and economical environment in order to gain access to informatics and information and communication technology are not limited to the accessibility and reasonable prices, but also implies overcoming the lack of technology skills.

Regarding the subjects' ability to handle the computer, the fact that the present study found that most elderly individuals took computer courses and have used the computer for less than two years, and they also use email, instant messengers, social networks, and Internet browsers point to the importance of public policies for the institutionalization of the Telecenter in the Centers for Reference and Citizenship of the Elderly as a preeminent element for digital inclusion in old age.

Authors state that being able to use the computer and virtual communication tools can facilitate the physical and social proximity of elderly individuals with their families, and that communication is the supporting pillar to improve and maintain the existence of a social group and improve self-esteem. Therefore, it is important to include the elderly in the digital world and they should be able to use the computer and virtual communication tools^(8,12).

The psychological impact of learning how to use computers and the Internet was identified by a quasi-experimental study performed with a group of elderly individuals living in nursing homes, which showed significant improvement in aspects such as depression and loneliness, thus contributing for the wellbeing and the feeling of empowerment, which affected their interpersonal interactions, promoting cognitive functioning and contributing to their self-control and independence⁽¹³⁾.

The tool most used by the subjects was the e-mail, which implies it is the simplest tool and corresponds to the reported purposes of communication and sending messages to friends and relatives.

It is highlighted that the elderly use social networking websites and browsers such as *Google*® and *Yahoo*® to find information on the Internet, confirming the purposes of using the computer to keep up to date and for communication. Using a computer with Internet access and virtual communication tools allows the elderly to get in touch with old friends and make new ones, recover memories, improve their vocabulary, travel and see the world, as it fulfills its role of bringing people closer together through virtual communities, even though they are miles apart.

Social network websites allow users to create virtual communities that consist of a group of individuals that gather virtually online using virtual communication tools to maintain social or professional contacts to talk about common interests, socialize or simply keep in touch.

Communities can have a limited or indefinite time of existence, they can be connected to a specific activity or be an open community that offers open chats and chat rooms for maintaining virtual contact⁽¹⁴⁾.

Using new technologies can help to re-include the elderly in current social relationships, fighting social exclusion, becoming a place of communication, of exchanging experiences with others and of constant learning.

It is also emphasized that, despite being a technically insignificant number of individuals who use virtual learning environments and *blogs*, *flogs* and *moblogs*, because it is an elderly population, these data are relevant because they represent a seed of inclusion in the vast digital world that is constantly changing and transforming.

These new communication environments emerged with the advent of *web 2.0* and permitted to create and disseminate *blogs*, webpages, social networks and *wikis*. *Blogs* are the precursors of several virtual environment that, depending on the content published on the post, can be referred to as: *videolog*, where the content is mostly videos, *photologs*, in which pictures and photos prevail, the *audioblogs*, aimed at audio posts, and the *moblogs*, which are *blogs* that can be updated using a mobile phone or other mobile connections⁽¹⁵⁾.

The fact that an insignificant number of participants reported using internet telephone software (VoIP) suggests that this tool requires a better computer knowledge, considering that, in terms of cost, these tools have been much more cost effective than using conventional telephone services.

Regarding the time spent on the Internet every day, a previous study found subjects spent a mean 3.4 hours a day on the web⁽¹⁰⁾, which is similar to what was found in the present study. These results suggest that the profile of elderly individuals has changed recently and that they have been required to follow up to the technological advancements, using the Internet to keep up to date and connected.

Regarding the reasons for the elderly to use the computer, studies have reported results similar to those found in the present study, which list the following as the most common purposes: the permanent need to keep up to date, to research and read news on the net; to talk with friends and relatives; for fun and leisure; for shopping and net banking; to check prices and to participate in educational activities^(8,11).

In another study, elderly internet users reported they used the web to obtain new knowledge, as it is a form of connecting with the world, contributing to making significant changes such as personal valorization, communication, information, and leisure, in addition to promoting psychosocial development and permitting to improve one's quality of life⁽¹¹⁾.

In this context, the importance of the support from political and social institutions, family, friends and groups with common interests is essential for an active aging, which corresponds to a biopsychosocial balance and the comprehensiveness of a human being that is part of a social context and is capable to develop his or her own potentials⁽¹⁶⁾.

In this reality, nurses must take over technologies in order to offer multiple perspectives of using and expanding

information for this population, promoting and facilitating interaction, assimilation, and the collective construction of knowledge, as well as its application for psychosocial development and to improve quality of life.

CONCLUSION

The characterization of the population of 55 elderly individuals was marked by 58.2% males, with a mean age of 66.83 years, 45.5% married, 49.0% with complete secondary education, 18.2% professionals in the fields of science and arts areas (engineer, lawyer, accountant, teacher, nurse), 80.0% are retired, 56.4% do not have a job, and 60.0% live in a house they own.

The use of computer tools was identified by 33 (60.0%) elderly individuals with a computer at home and, of this total, 21 (63.7%) own a computer, and 24 (73.0%) use the computer only at home.

Regarding the 55 elderly subjects, 76.4% reported having taken a computer course; 58.2% have used the computer for less than two years; 85.5% of the elderly use the device for up to two hours a day, and 36.4% used it during mornings.

The purposes of keeping up to date and obtaining information were the most reported reasons for using the computer, with 17.0% each. In addition, 15.0% of the subjects said they used the computer for research, 14.0% for fun and to talk to relatives and friends. The e-mail was the most used tool, by 75.0% of the elderly. Regarding the social networking websites, 31.0% of the subjects participate in virtual communities; 87.0 % use web browsers such as *Google*® and *Yahoo*®, and 13.0% use virtual learning environments for distance education courses.

With these data, it is possible to reaffirm that nurses must be concerned with assisting the elderly not only in terms of geriatric issue, but also regarding gerontological aspects. To do this, it is necessary that they (nurses) focus on the profile that is outlined for this population group, referred to as seniors, in order to find ways of including computer tools as healthcare aides.

The computer contributes as a new way of processing and disseminating information. In view of this reality, it is believed that the elderly are taking hold of computer tools to build a new image of old age. To do this, it becomes clear that developing public policies is key for the digital inclusion of the elderly and for improving their skills.

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