Research Paper
Acceptance of Information and Communication Technology by the Elderly People Living in Tehran

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ABSTRACT

Objective: Nowadays, Information and Communication Technology (ICT) provides a potential opportunity for communities by changing the concept of distance. Despite the development of communication and information tools and their widespread use, the statistics indicate a digital gap and very low use of these tools by the Iranian elderly. This study aimed to investigate the status of acceptance of ICT and its related factors by elderly people living in Tehran City, Iran.

Methods & Materials: A cross-sectional study was conducted in summer 2018. A sample of 330 elderly people living in Tehran was selected by multistage sampling method. All obtained data were analyzed by the Shapiro-Wilk test, point biserial correlation test, the Spearman correlation test, and the Pearson correlation test in SPSS 21.

Results: Most participants belonged to the age range of 60 to 70 years (61%), were men (67%), married (85.5%), and had a diploma or lower education (72.5%). The results show that the most popular ICT among the elderly were watching TV, talking on the phone, and readings news, while sending and receiving emails was the least popular one. The Mean±SD technology acceptance score among the elderly was 3.15±0.75 which was above its theoretical average (score 3). The most important barriers of older people to accept ICT was "lack of interest", "feeling no need", and "lack of familiarity with the ICT tools". Acceptance of technology has been strongly associated with education (r=0.325, P<0.001), age (r=0.236, P<0.001), and available time to use ICT tools (r=0.528, P<0.001). In addition, the acceptance of technology has not been significantly correlated with the general health status of the elderly and their economic situation.

Conclusion: The technology acceptance status of older people in Tehran was higher than average and the intention to use ICT tools was significant among them. But the difficulty in using some of these tools has been one of the most important limitations in adopting ICT technologies. Additionally, the adoption of technology among the elderly is not influenced by their economic situation or the health status, and therefore all groups of the elderly can be considered target groups to enhance their ability to use ICT tools.

Key words: Information technology, Self-help devices, Internet, Aging

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Extended Abstract

1. Objectives

Information and Communication Technology (ICT) has radically changed cultural and social issues by changing communication channels [1-3] and providing more communication paths for people. Apart from its interesting nature, ICT has provided services for the elderly which were not previously possible for them. Remote care, telecommunication, ICT-based health services, and online social support are some of the most important services of ICT for promoting health, quality of life, and individual autonomy of the elderly [4-6]. Despite the amazing development and use of various communication and information tools, evidence suggests a digital generation gap and less benefit of older people from these tools. The purpose of this study is to investigate the acceptance of ICT by elderly people living in Tehran, Iran.

2. Methods and Materials

This is a cross-sectional study conducted on 330 seniors living in Tehran in 2018. They were selected using a multistage sampling technique. Inclusion criteria were aged 55 years or older and literate, while exclusion criteria were the unwillingness to participate in the study and inability to answer a question. The data collection tool was ICT acceptance questionnaire designed by Basakha and Mohaqeqi [7]. It has 24 items with 5 subscales of independence of user, perceived usefulness, perceived ease of use, attitude to use, and intention to use ICT. In their study, the content validity index of the items ranged between 0.87 and 1, and 0.98 for the whole questionnaire. Its structural validity has also been investigated through confirmatory factor analysis. The Cronbach α coefficient for the internal consistency of its subscales was between 0.83 and 0.87; and 0.88 for the whole questionnaire. In addition to these questions, there were some other questions about the elders’ demographic characteristics, the perception of socio-economic conditions, public health, and time use. There was also a checklist with items assessing ICT-based activities of the participants.

The collected data were analyzed in SPSS V. 21 using statistical tests of Shapiro-Wilk, point biserial correlation, the Spearman correlation, and Pearson correlation. It should be mentioned that this study was approved by the Research Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (Code: IR.USWR.REC.1396.142).

3. Results

Most of the participants were male (97%), married (85.5%), aged between 60 and 70 years (61%), with high school diploma or lower education (72.5%). The most popular ICT tools among elderly people were TV, then the mobile phone, and finally, landline phone. While the tablet was the least common ICT tool among study subjects. Based on the obtained data, 77.9% of the subjects had smartphones, which is indicative of their potential for the use of an operating system and its services. Watching TV, talking on the phone and reading news were the most common ICT-related activities while sending/receiving emails was the least one. According to the subjects’ reports, the most important reasons for not using ICT tools were the lack of need (30.3%), lack of interest (27%), and lack of skill (18.5%).

The Mean + SD acceptance score of ICT by the subjects was 3.15±0.75 which was higher than the average score of 3. Among dimensions of ICT acceptance, “Intention to use” had the highest score (mean =3.68) while “perceived ease of use” (mean = 2.63) had the lowest score. ICT acceptance had a significant correlation with education (r=0.325), age (r=-0.236), and the time allocated to use ICT tools (r=0.528) (P<0.001). Based on these results, spending more time on using ICT tools and gaining higher educational level have a positive and significant impact on ICT acceptance of the elderly people. Moreover, with the increase of age, ICT acceptance by the elderly people decreases. Gender also had a significant and negative correlation with ICT acceptance (r=-0.108, P<0.05). That is, being a woman also affects ICT acceptance. A significant positive correlation was also found between marital status and ICT acceptance (r=0.011, P<0.001), where married seniors accepted ICT more than singles. Finally, results showed that ICT acceptance had no significant correlation with the general health (r=0.070, P=0.212) and economic situation (r=0.053, P=0.340) of the elders. These variables had correlation only with one dimension (independence of user).

4. Conclusion

In the current study, most elderly people had smartphones; this shows their potential for using operating systems on their devices and their services. Watching TV was the most popular activity among the subjects. Therefore, the TV medium can be the best way to develop the ability of the elderly to use other ICT tools. Reminder applications and messengers were popular among the elderly and can be used in personal and social spheres of the old life. The rate of ICT adoption by seniors in Tehran was higher than the average level, and the intention to use ICT tools among
them was considerable, but the difficulty in use was one of the most important barriers in adopting ICT. Furthermore, acceptance of ICT was not affected by the economic situation or the health status of the elderly. Hence, all elderly groups can be considered as target groups for improving the ability to use ICT tools.

Ethical Considerations

Compliance with ethical guidelines

Potential respondents were informed that their participation was voluntary and their collected data were used solely for scientific purposes. The study was approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (IR.USWR.REC.1396.142).

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Authors’ contributions

Conceptualization: Mehdi Basakha; Methodology: Mehdi Basakha, Hossein Mohaqeqi Kamal; Investigation: Hakimeh Pashazadeh; Original draft preparation: All authors; and review & editing: Hossein Mohaqeqi Kamal, Mehdi Basakha.

Conflict of interest

The authors declared no conflict of interest.

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