Does Health Related Quality of Life Differ between People with Chronic Mental Illness Who Use Computers and Those Who Do Not?

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Abstract. Occupational therapists are increasingly interested in promoting quality of life and digital divides in people with chronic mental illness. This study aims to compare quality of life between people with chronic mental illness who use and do not use computer. Twenty-four participants were recruited from a medical center in northern Taiwan. Two assessments were used including 1) a Quality of life questionnaire (WHOQOL-BREF Taiwan) and 2) a questionnaire relating to computer and internet use developed specifically for this study. The results show that there was a statistically significant difference in environment domain of quality of life between people who use computers and people who do not use computers in their daily life (p=.029). There was no statistically significant difference in the physical, psychological and social relationship domains of quality of life. Occupational therapists may help people with chronic mental illness to engage in meaningful activities through using the computer as ordinary part of their daily lives and in order to improve their perception of quality of life.

Keywords: Computer Use, Digital Divide, Mental Illness, Occupational Therapy, Quality of life.

1 Introduction

1.1 Background

Health professionals, especially occupational therapists, are increasingly interested in promoting quality of life and digital divides in people with chronic mental illness. People with chronic mental illness often suffer setbacks in information access and communication due to their symptoms. Although internet and computer use may improve patients' accessibility to information, the disability makes them the least privileged group in utilizing information technology. However the relationship between computer use and quality of life is not well understood.

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1.2 Purpose and Significance

This study aims to understand the difference in health related quality of life between people with chronic mental illness who use computers and those who do not use computers. We hope to help health professionals or other professionals have more understanding of digital use and digital divide of this population in order to help people with mental illness improve their life quality. It will assist health professionals in their work with these people with chronic mental illness by enabling an understanding of the effect of computer use in their quality of life.

2 Literature Review

People with chronic mental illness have low computer use rate. According to The Research, Development and Evaluation Commission of the Executive Yuan in Taiwan [1], the percentage of families in Taiwan that own computers, have internet access and use computers in the general population are 82.6%, 74.7% and 71% respectively. However, the percentages of families with people with mental illness that own computers and have internet access are 63.6% and 53.8% respectively. And 22.6% of individuals with mental illness use computers. The computer use rate (22.6 %) in people with mental illness is even lower than people with visual impairment (23.1%). People with mental illness are the second lowest group in computer using rate in the people with either physical or psychological disabilities.

Huang et al. [2] stated that there are five factors affecting computer use of people with schizophrenia. These are information access, information literacy, information application, family information agency, and personal clinical characteristic. As the world fills up with more and more digital information, people who do not use computers in their daily lives will experience greater digital divide and disengagement in society.

Currently, there is little research related to computer use or computer training in people with mental illness. Salzer, Simiriglia and Solomon [3] examined computer use among 262 people with mental disability and their interest in receiving computer training. 71% of the participants indicated that they had previously used a computer for at least one activity, though only 39% for at least three or more activities in their lives. 67% said that they have very little computer experience and 56% were very interested in receiving computer training. Chang [4] studied the effect of the computer training and the employment rate after computer skills training in 24 persons with various psychiatric disabilities. The results of this study indicated that the computer skills training not only increased their computer skills but also expanded job opportunities in people with psychiatric disabilities. The results also showed that 67% of the participants improved their attention and 79% increased their performance in keyboard typing.

Computer and internet use may provide social interaction, work opportunities and leisure opportunities, which may further improve people's quality of life especially for people who have chronic mental illness. Mayers [5] indicated that lack of personal achievement, lack of employment, difficulty in forming and maintaining relationships, loneliness and lack of leisure activities are key areas that were negatively affecting quality of life in people with mental illness. However, there is no study that addresses computer use and quality of life in people with mental illness, so the relationship between the two is unclear.

To understand the difference in health related quality of life between people with chronic mental illness who use and who do not use computers is the focus in this study. This study hypothesized that there will be a difference in quality of life between these two groups.

3 Methods

Twenty-four people with chronic mental illness were recruited from a medical center in northern Taiwan. Participants lived at home and attended a day-care ward in the medical center on the weekdays. All participants were unemployed during the study. The inclusion criteria include people who live in the community and who is able to fill in or understand the quality of life measurement. The exclusion criteria include people with schizophrenia who are in the acute mental illness stage. People who cannot understand the question items in quality of life measurement due to cognitive deficits were also excluded. The 24 participants were in a stable phase of their illness and received regular medical treatment. Participants were assessed by occupational therapists using questionnaires to understand their digital use and quality of life. Two assessments were used, including (1) a Health Related Quality of life (HRQoL) questionnaire (WHOQOL-BREF Taiwan) [6] and (2) a questionnaire relating to computer and internet use developed specifically for this study. Participants were divided into two groups of people. The first group is participants who use computers in their daily lives and the second is participants that do not. Independent T tests were used for statistical analysis to compare the quality of life between the two groups.

4 Results

There were thirteen males and eleven females that participated in this research. Fifty percent have a college degree or higher degree. Fifty-eight percent of the participants use computers and forty-two percent of the participants do not use computers in their daily life. The two groups were homogeneous and no statistically significant difference was found with regards to age and gender and education background. The results show that there was a statistically significant difference in environment domain of quality of life between people who use computers and people who do not use computers in their daily lives (p=.029). There was no statistically significant difference in the physical, psychological and social relationship domains of quality of life. Table 1 shows the statistical analysis of the results.

Table 1. Health related quality of life between people with chronic mental illness who use and do not use computer

WHOQOL-BREF DOMAINS	Use Computer		Do Not Use Computer		F	p
	Mean	SD	Mean	SD		
Physical	60.00	16.09	57.00	12.88	0.44	.631
Psychological	58.29	12.10	51.30	14.51	0.15	.213
Social Relationship	48.86	19.86	45.10	18.31	0.38	.642
Environment	62.14	17.69	45.00	17.69	0.16	.029*

*p < .05

5 Discussions

The perception of HRQoL in environment domain showed lower scores in those people with mental illness and who do not use computer in their daily life. In the WHO-QOL-BREF questionnaire, 5 of the 8 facets of the environment domain are directly or indirectly related to computer use. They are: 1) financial resource, 2) health and social care accessibility, 3) opportunities for acquiring new information and skills, 4) participation and opportunities for leisure activities and 5) transport. Financial resource may relate to the ability to afford a computer or other meaningful things that related to quality of life. A computer is not only a tool that most jobs require, it is also a tool for searching and accessing health and social care, acquiring new information and skills, participating in leisure activities and providing diverse transportation information. Study shows that engagement in meaningful activities is significantly correlated with quality of life in persons disabled by mental illness [7]. Health professionals may help people with chronic mental illness engage in meaningful activities through using the computer as an ordinary part of their daily lives and thus improve their perception of quality of life.

The reason that there was no significant difference found in the domains of physical, psychological and social relationship HRQoL is probably due to the small sample size. One limitation of this study is the small sample size. Another limitation is that the participants were recruited from the day care ward of one medical hospital in Northern Taiwan, which means that the present result do not necessarily apply to all individuals living with mental illness. A longitudinal quantitative study with larger sample sizes that observe people with mental illness over longer period of time undergoing a computer intervention program is needed in order to further explore the relationship between quality of life and computer use. Future qualitative studies to understand the experience of computer use that contribute to improve QOL for people with mental illness are also needed.

6 Conclusion

People with chronic mental illness who use computers in their daily lives have a better environment domain of quality of life comparing to people with chronic mental illness who do not use computers. Many health professionals, such as occupational therapists, not only want to decrease the dysfunction resulting from the illness, but want the people with chronic mental illness to have better quality of life. As society fills up with digital information, the manner through which we can reduce the digital divide and improve quality of life in people with mental disorder is a necessary focus. A vital finding showed that computer use is related to better environment domains of quality of life. The findings of this pilot study can serve as the basis for future computer intervention studies that target the needs of the people with mental illness.

7 Application

Few studies focus on computer use in people with mental illness. This study is one of the first to describe the computer use and quality of life for people with mental illness.

The finding can help health professional especially occupational therapist in their clinical practice. People with mental illness have different education and support needs. When occupational therapists promote digital life in the people with mental illness, they should make sure they have computer access in the hospital or in the community and help to set up stable and reliable computer hardware and software.

Computer training can be used as a medium to improve cognitive abilities, performance of activities of daily living, and social/vocational performance. The digital world provides equalized status, temporal flexibility and recordability for each user [8]. The internet democracy [8] allows equalized status for internet users and provides an environment without stigma resulting from chronic mental illness. Computer and internet use do not require face to face interaction and immediate response. Also, people with mental illness can keep a record of communications in computer applications such as email. Those characteristics of the digital world can compensate for their limitations such as cognition, memory, communication and expression. In designing occupational therapy group treatment such as computer and internet training, we need to know the digital needs and digital divides for the population and also tailor the treatment specialized for this group and to their needs. A suitable computer training program could be implemented to promote these clients' quality of life.

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