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Original Article

The effect of time management training on problematic use of the Internet and quality of life in nursing students

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Abstract

Introduction: Improving the abilities and performance of nurses in time management, is one of the needs and necessities of improving human resources. Therefore, the present study aimed to determine the effectiveness of time management training on the problematic use of the Internet and the quality of life in nursing students.

Materials and Methods: In the present study, 105 nursing students at the Nursing and Midwifery Faculty of Mashhad-Iran, were selected using stratified sampling and they were assigned into two experimental (n= 58) and control group (n= 47). The experimental group, received the training in 2 four-hour sessions (time management) and 1 two-hour session (application training) during three consecutive weeks, while the control group was on the waiting list. Students completed the Problematic Internet Use Questionnaire, Morehead and Griffin Standard Time Management Questionnaire, and World Health Organization Quality of Life Questionnaire (BREF-WHOQOL) in pre-test and post-test. Data were analyzed aiding independent t-test and Mann-Whitney U test, and SPSS version 16 software.

Results: The results showed that time management training was effective in reducing the problematic use of the Internet ($P< 0.001$), but it was not effective in improving the quality of life of students ($P> 0.05$).

Conclusion: According to the results, the use of time management strategies plays an effective role in reducing the problematic use of the Internet in university students.

Keywords: Education, Internet, Quality of life, Time management

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Introduction

In the medical staff, improving the quality of life for nurses is critical in ensuring the sustainability of the healthcare system to provide high-quality services to patients (1). Quality of life is a range of the objective needs of every human being, which is related to his/her understanding of feeling good (2).

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All the factors and variables affecting life during the years of study and attendance at the university are considered components of the quality of academic life. The quality of university life has many facets and dimensions: educational, research, physical, psychological, cultural-social, welfare, recreational, economic, and the future of personal growth (3). On the other hand, one of the inevitable cases in the medical sciences is the use of technology (4). The Internet is one of humanity's most advanced recent achievements, which includes a wide and limitless network of numerous links. The Internet attracts many audiences due to its efficiency and unique attractions (5). Among West Asian countries, the number of Internet users in Iran is significantly higher than in other countries, and from 2000 to 2018, the number of users has increased from 3.8% to 69% (6). Time management has become increasingly important as a determining factor of success. Managers have determined the position to acquire relevant skills. Considering the harmful use of the Internet and its consequences, it is necessary to pay attention to the issue of time management (7). The issue of time management in the nursing profession is of particular importance because wasted time is not spent with the patient. If time management is forgotten during work, its ill effects will affect the patients (8). Time management is an important aspect of behavior for self-regulation, which includes setting goals, prioritizing, estimating time, solving problems, and evaluating and observing patterns and trends in classified behavior (9). Time management refers to the process of planning and exercising conscious control of time spent on specific activities, especially to increase effectiveness, efficiency, and productivity. This skill includes various demands on a person about work, social life, family, hobbies, personal interests, and commitments with limited time (8).

Studies have shown that the harmful use of the Internet has an inverse relationship with the life quality, physical health, and mental health of students and has a significant relationship with the health of the living environment and social health of the individual (10). Considering the importance of examining the harmful use of the Internet and managing time to use it, this issue can seriously threaten students' health and reduce their quality of life. This study was conducted to determine the effectiveness of time management training on problematic use of the Internet and quality of life in nursing students.

Materials and Methods

The statistical population of the present study consisted all undergraduate nursing students were studied at Nursing and Midwifery Faculty of Mashhad-Iran. After the approval and permission from Nursing and Midwifery Faculty of Mashhad, 105 people were selected by stratified sampling method and they were assigned into two experimental group (n= 58) and control group (n= 47). The experimental group, received the training in 2 four-hour sessions (time management) and 1 two-hour session (application training) during three consecutive weeks by the researcher under the supervision of the supervisor, while the control group was on the waiting list.

The inclusion criteria included written informed consent, being nursing student, not participating in a similar training course, having a smart mobile phone, obtaining the minimum score to have problematic use of the Internet based on Problematic Internet Use Questionnaire (PIUQ) (score 46), and lack of psychiatric disorder. The exclusion criteria included withdrawing from education, absence in one of the training sessions, and willingness to withdraw from the study.

Table 1. A summary of the time management session protocol and application training (made by the researcher) adapted from Allen's time management protocol (11)

Session	Goals	The content
First	Introduction, getting to know the concept of time management and its importance	Introduction, stating the importance of time management and the consequences of not complying with it.
Second	Familiarity with time management techniques and the benefits of using them	Teaching time management techniques (the skill of saying "no", taking a break, making a daily list, etiquette of making a daily list, exercising, focusing on one task, not paying too much attention to details, setting time to do each task, GTD technique, Pomodoro technique, time blocking, Pareto's law , 4D system).
Third	Familiarity with the Iranian Bad Saba time management application	Installing the time management application, getting to know the internal space of the application, how to set the time to different parts in the application.

Research instruments

A) Problematic Internet Use Questionnaire (PIUQ): This questionnaire was designed by Caplan, in 2002 and has five domains: a preference for online social interaction, mood regulation, mental preoccupation, forced use of the Internet, and negative consequences. Each area has three questions, and the questionnaire has 15 questions. Moreover, the grading method includes normal (15-45), mild (46-65), moderate (66-85), and severe (86-105). This questionnaire has high validity and reliability and can be used as a standard tool in epidemiological studies to investigate the damage caused by the Internet and social networks (12). In Iran, Ahmadpour et al. calculated its Cronbach's alpha equal to 0.92 (13).

B) Moorhead and Griffin Standard Time Management Questionnaire: This questionnaire was created by Moorhead and Griffin in 1989. It has 24 questions and 8 dimensions. The questions are scored based on a five-point Likert scale (completely agree to disagree). The dimensions of the questionnaire include personal discipline (questions 1 to 3), use of free time (questions 4 to 6), goal setting (questions 7 to 9), planning and prioritization (questions 10 to 12), accuracy, and concentration (questions 13 to 15), delegating authority (16 to 18), saying no and calling (questions 19 to 21), and avoiding today and tomorrow (questions 22 to 24). The validity of the questionnaire has been confirmed, and its reliability has been reported with Cronbach's alpha of 0.80, which shows that the questionnaire has a good level of reliability (14). In an Iranian population, the reliability of this questionnaire using Cronbach's alpha method was 0.82 (15).

C) World Health Organization Quality of Life Standard Questionnaire (BREF-WHOQOL): This questionnaire examines four dimensions: physical health, mental health, social relations, and environmental health. Physical health subscale: The questions 3, 4, 10, 15, 16, 17, and 18 are related to this dimension. The range of scores for this subscale is 7-35. Mental health subscale: The questions 5, 6, 7, 11, 19, and 26 are related to this dimension. The range of scores for this subscale is 6-30. Social relationship subscale: The questions 20, 21, and 22 are related to this dimension. The range of scores for this subscale is 3-15. Environmental health subscale: The questions 8, 9, 12, 13, 14, 23, 24, and 25 are related to this dimension. The range of scores for this subscale is 8-40 (16). The internal validity of the Persian version of this questionnaire was 0.82 for the total questionnaire and for the subscales was 0.78 to 0.82 (17).

Results

In term of demographic variables, the mean and standard deviation of the age of nursing students is generally 21.17 ± 3.08 years. Also, the age of nursing students in the "time management training" group is 20.98 ± 2.87 years, and the control group is 21.36 ± 3.14 years. Also, the age range of the studied nursing students was between 18 and 26 years. Regarding the gender of the nursing students, in the "time management training" group, 24 (41.4%) were male, and 35 (58.6%) were female. In the control group, there were 33 (2.2 70 percent) were male, and 14 (29.8 percent) were female.

Table 2. The scores and the statistical results of problematic Internet use in nursing students

Stage	Time management group	Control group	Statistical tests
Pre-test	53.31 ± 13.09	55.42 ± 14.82	t= 0.77 P= 0.44 Independent T
Post-test	46.34 ± 13.11	54.12 ± 12.55	t = 3.33 P= 0.001 Independent T
The difference before and after the intervention	-6.97 ± 18.53	-1.32 ± 9.62	Z= 5.60 P= 0.001 Mann Whitney U
Intragroup statistical tests	t= 6.53 P= 0.001 Paired T test	t= 0.51 P= 0.63 Paired T test	

Regarding inter-group comparison, the independent t-test showed that in the pre-test, there was no significant difference between the two groups in the mean score of the problematic use of the Internet (*P*= 0.44) and the two groups in terms of this variable were homogeneous; however, the independent t-test showed a significant difference between the two groups

in the post-test (*P*= 0.001). Also, the result of Mann-Whitney's showed a significant difference between the two groups in difference before and after the intervention (*P*= 0.001). Therefore, time management training reduced the overall score of problematic use of the Internet in nursing students.

Table 3. The scores and the statistical results of quality of life in nursing students

Stage	Time management group	Control group	Statistical tests
Pre-test	53.78 ±11.87	55.34 ± 10.94	t= 1.02 P= 0.46 Independent T
Post-test	55.07 ± 9.51	56.10 ± 5.43	t= 0.88 P= 0.61 Independent T
The difference before and after the intervention	1.29 ± 15.36	0.76 ± 7.49	Z= 0.65 P= 0.55 Mann Whitney U
Intragroup statistical tests	t= 1.26 P= 0.27 Paired T test	t= 0.52 P= 0.67 Paired T test	

Regarding inter-group comparison, the independent t-test showed that in pre-test, there was no significant difference between the two groups in the quality of life score (*P*= 0.46), and the two groups were homogeneous. Also, the independent t-test results indicated no significant difference between the two groups after intervention (*P*= 0.61). Also, the comparison of the two groups by the Mann-Whitney test also indicated no significant difference between the two groups in difference before and after the intervention (*P*= 0.55). In other words, time management training did not increase the overall quality of life score.

Discussion

The results of the present study showed that time management training is effective in preventing nursing students from harmfully using the Internet. Our findings were in line with the results of Ghanbari's research on time management training on reducing Internet addiction in secondary school students of Kerman city-Iran that showed this training has been effective in reducing students' internet addiction (18). Darvishzadeh et al. investigated the effect of time management training on using mobile phones, social media and cyberspace, attachment patterns, problems children's behavior and Internet addiction of parents. The results showed that training improved the correct use and time management of mobile phones, social media, and virtual space, and parents' attachment, while it reduced children's behavioral problems and parental Internet addiction (19). Mesbah Moghadam et al. studied students of Qom University. They found that the greater ability of time management in students is related to less Internet addiction (20). Khojasteh assessed the effectiveness of virtual education using the Shaad app on the motivation to progress and time management in female students. The results showed that the use of this app helped the students to manage their time better than in the past (15). Roshanzadeh et al. assessed the predictive effect of Internet addiction on academic procrastination of nursing students of Shahrekord University of Medical Sciences. They found that time management and improving social relationships predict academic procrastination of nursing students (21). Öksüz et al. investigated the relationship between the use of the Internet and time management among Turkish nursing students and concluded a significant negative relationship between the use of the Internet and time management (22). Wang assessed the relationship between leisure time management, leisure time fatigue, and Internet addiction in undergraduate students in Taiwan and revealed that the use of free time and time management might be a solution to reduce fatigue and harmful use of the Internet (23). The results of the present study showed that time management training did not affect the quality of life of nursing students. Ahmadi et al. compared the time management components, job stress, and quality of life of primary and secondary education managers. The results showed that primary school managers are better than secondary managers in time management, while the secondary managers had higher scores of quality of life than primary managers

(24). Ashrafi et al. examined the relationship between time management and performance with the mediating role of the quality of work life in the bank employees. They showed that there were significant relationships between time management and performance, and between time management and the quality of working life (25). Naeimi and Adelpour assessed the effectiveness of time management training on the quality of life, procrastination and decision-making of secondary school students in Islamshahr city-Iran. They showed that time management training was effective on the quality of life, procrastination and decision-making (26). Also, Hosseini et al., found a relationship between time management and quality of life in students of Hamadan University of Medical Sciences (27).

The present study has some limitations such as the lack of reliable, standardized tools in this field in our society, the lack of follow-up period to assess the sustainability of the intervention. Therefore, it is suggested that variables related to time management should be considered in future studies.

Conclusion

According to the results, the use of time management strategies plays an effective role in reducing the problematic use of the Internet in university students.

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