

Lifestyle and Its Effective Factors in Nurses with Covid-19

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Abstract

Introduction & Objective: Lifestyle is one of the most important factors affecting health. Nurses, as health promoters, are at the forefront of the fight against Covid-19 disease; thus, they are at risk of the disease and its subsequent problems. The present study aimed to determine the lifestyle and influential factors among nurses with Covid-19.

Methods: This is a cross-sectional study performed on 250 nurses with Covid-19, working in hospitals affiliated with Tehran University of Medical Sciences in 2021. Samples were first selected by multi-stage random sampling method. Then, they were classified into clusters using purposive sampling method based on inclusion criteria. The data were collected using a demographic questionnaire and a cross-culturally adapted nurses' lifestyle questionnaire. Then, the data analysis was performed using descriptive and inferential statistical tests in SPSS ver. 25. Eventually, p -value $< .05$ was considered as the significant level.

Results: The mean score of nurses' lifestyle was 4.06 ± 0.39 . The highest scores of lifestyle subscales include competency (4.69 ± 0.30), systematic interactions (4.66 ± 0.35), responsibility (4.086 ± 0.55), role management and work system (3.68 ± 0.52), management of individual life (3.49 ± 0.68), and interactions (3.34 ± 0.44), respectively. The findings of the linear regression statistical test showed that sex, marriage, work shift, and work experience have significant predictive power for the overall lifestyle, respectively.

Conclusion: Nurses with Covid-19 have an acceptable lifestyle level. Factors such as sex, marriage, shift work, and work experience affect the lifestyle of nurses with Covid-19. Accordingly, planning is necessary to improve the lifestyle of nurses and the factors affecting it during the Covid-19 pandemic.

Keywords

lifestyle, nurse, Covid-19

Introduction

Lifestyle is one of the most important factors affecting health. This characteristic has become more critical with the epidemiological change of diseases. According to the World Health Organization (WHO), unhealthy lifestyles account for 60% of global deaths and 80% of deaths in developing countries. Due to the significance of this issue, healthy lifestyle promotion has been introduced as one of the leading programs of WHO (Sepah Mansour & Bagheri, 2017). A healthy lifestyle is a health priority in Iran, so the health programs are based on improving public self-care and lifestyles. According to the latest report of Statistical Center of Iran, at least 180,000 out of 380,000 deaths were related to the following seven lifestyle risk factors: smoking and hookah, unhealthy diet, sedentary lifestyle, obesity, hypertension, high blood sugar, and cholesterol. If this trend continues until 2026, these factors will approximately account for 70% of disease cases in Iran (Rastegar et al., 2015).

Relevant studies have shown that a healthy lifestyle is continuously associated with a reduction in mortality and an increase in life expectancy and well-being (Balanzá-Martínez et al., 2020; Larsson et al., 2017). Lifestyle is defined as the way used by people live. This lifestyle is often reflected in their activities, beliefs, interests, opinions, and values, which is also influenced by certain factors such as family, culture, and social status (Kaakinen et al., 2018).

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Covid-19 is currently causing a global pandemic with high mortality and morbidity. To prevent the spread of the virus, governments have imposed restrictions on outdoor activities or even quarantine periods for all sections of society, which has disrupted their healthy lifestyles (Mattioli & Ballerini Puviani, 2020). In this regard, numerous studies indicate that the Covid-19 pandemic, especially any infection, has reduced the healthy lifestyle of people in different groups of society (Al Thobaity & Alshammari, 2020; Martínez-de-Quel et al., 2021; Melnyk et al., 2022). The treatment team, especially nurses, is regarded as one of the most important groups of the society, directly involved in the Covid-19 pandemics. Nurses are at the forefront of the fight against Covid-19 disease; therefore, they are vulnerable to the disease, and their health is affected by the disease and its subsequent problems (Al Thobaity & Alshammari, 2020). According to the latest report of the Ministry of Health, Treatment and Medical Education of Iran, approximately 80% of the medical staff (more than 100,000 nurses across Iran) have been infected with the Covid-19 disease several times during the pandemic period, and many of them suffer from subsequent complications and various health problems for a long time (<https://www.isna.ir/news/1400081410299/>). In a study of nurses, Melnyk et al. found that more than 50% of nurses experienced worse

mental and physical health due to the Covid-19 pandemic. Covid-19 has a direct and significant impact on the health and lifestyle of healthy and Covid-19 nurses. These researchers recommended further research in this area (Melnyk et al., 2022).

Due to the increasing Covid-19 pandemic growing worldwide and its increasing incidence among nurses, advanced search in existing studies indicates that there has been no study on the lifestyle of nurses with Covid-19; therefore, considering the importance of nurses' health, the aim of the present study was to "determine lifestyle and factors affecting it among nurses with Covid-19".

Methods

The present research is a cross-sectional study that was performed on 250 nurses with Covid-19 working in hospitals affiliated with Tehran University of Medical Sciences in 2021. The sample size was estimated to be 240 people using the sample size formula and previous studies (RezakhaniMoghaddam et al., 2013), which was increased to 250 people taking into account the possible drop-out.

Multi-stage random sampling was performed, and each of the hospitals of Tehran University of Medical Sciences was considered a cluster. Then, five hospitals were randomly selected as the study setting, and samples within each cluster were collected purposively based on inclusion criteria. Inclusion criteria included having a degree in the associate degree in nursing and higher, at least one year of experience in the nursing profession, having the ability and informed consent to participate in the study, having Covid-19 disease (having a positive PCR test and confirmed Covid-19 by an infectious disease specialist) or a history of infection during the last six months. Exclusion criteria also included incomplete completion of the questionnaire and willingness to withdraw from the study.

Data were also collected using a demographic questionnaire (including age, sex, marriage, work experience, level of education, workplace, work shifts) and a cross-culturally adapted nurses' lifestyle questionnaire. This 44-item instrument was designed on a 5-point Likert scale (Always, Often, Sometimes, Rarely and Never, & No idea). This questionnaire consists of 6 sub-scales, including competency (8 items), individual life management (11 items), role and work system management (7 items), accountability (8 items), interactions (5 items), and systematic interactions (5 items). The sum of the subjects' scores in each component indicates the extent to which those behaviors are performed, which together constitute the lifestyle score. No cut-off point is considered for this instrument, and thus, the higher the total score, the more desirable the lifestyle will be. The questionnaire validity was evaluated acceptable by the instrument designers, and its reliability was confirmed by using the correlation coefficient for the whole test ($\alpha = 0.897$) and its sub-scales ($\alpha = 0.79$) (Maben & Bridges, 2020). The content

Table 1. Demographic Characteristics of Nurses with Covid-19.

Characteristics	Frequency (%)	
Age	Less than 30 years	51 (20/4)
	30–40 years	109 (43/6)
	More than 40 years	90 (36)
Sex	Female	196 (78/4)
	Male	54 (21/6)
Marital status	Single	79 (31/6)
	Married	171 (68/4)
Education	Bachelor	39 (15/6)
	Master Degree	211 (84/4)
Work experience	Less than 10 years	76 (30/4)
	10–20 years	141 (56/4)
	More than 20 years	33 (13/2)
Workplace	CCU	53 (21/2)
	ICU	94 (37/6)
	Emergency	43 (17/2)
	Surgery	23 (9/2)
	Internal	30 (12)
	Dialysis	7 (2/8)
Work shift	Rotational	154 (61/6)
	Morning	48 (19/2)
	Evening	–
hospital	Night	48 (19/2)
	Baharlo	132 (58)
	Emam Khomeini	26 (10.4)
	Zeaian	41 (16.4)
	Yas	33 (13.2)
	Shariati	18 (7.2)

validity and reliability of this instrument were confirmed in other Iranian studies, such as the study by Mahmoudi Shen et al. ($\alpha=0.87$) and the study by Hassanpour et al. ($\alpha=0.75$) (Hasanpour et al., 2016; Mahmoodi Shan et al., 2014).

Data analysis was carried out using descriptive and inferential statistical tests in SPSS ver. 25. P-value < 0.05 was considered as the significant level.

Results

A total number of 250 nurses with Covid-19 were included in the present study. Some demographic characteristics of nurses are given in Table 1.

The mean nurses' lifestyle score was 4.06 ± 0.39 . The highest lifestyle scores belonged to competence (4.69 ± 0.30), systematic interactions, (4.66 ± 0.35), responsibility (4.086 ± 0.55), role management and work system (3.68 ± 0.52), management of individual life (3.49 ± 0.68), and interactions (3.34 ± 0.44), respectively.

The linear regression model was used to determine the factors affecting lifestyle and the impact of each of these factors. The results of linear regression showed that sex, marriage, work shift, work experience have significant predictive power for the overall lifestyle, respectively. This analysis showed that these variables predict a total of 35% of the variance of the lifestyle variable (Table 2).

Discussion

The present research was regarded as the first study in Iran to determine the lifestyle and its influential factors among nurses with Covid-19. In the present study, the mean lifestyle score was higher than the expected average, and it can thus be stated that their lifestyle is desirable. The Covid-19 outbreak has caused many changes in people's lifestyles (Van der Werf et al., 2021). Numerous studies have shown that the Covid-19 pandemic has had both positive (Moberg et al., 2021; Sampson et al., 2020) (Perkins, 2021) and negative (Al Thobaity & Alshammari, 2020; Martínez-de-Quel et al., 2021; Melnyk et al., 2022) effects on people's lifestyles. There has been no study on the lifestyle of Iranian nurses during the Covid-19 period, but the results of similar foreign studies on nurses, such as the study by Moberg et al. (2021), Sampson et al. (2020), and Perkins

et al. (Perkins, 2021). Besides, nurses' lifestyles were acceptable during the Covid-19 pandemic, and they sought to maintain a healthy lifestyle, which was consistent with the results of the present study. One of the reasons for the proper lifestyle of nurses in the present study is the high knowledge of nurses regarding Covid-19 disease and the role of a healthy lifestyle in preventing and better treatment of this disease. Nurses are aware that they are at high risk of developing the disease, and the best way to strengthen their immune system is to adhere to a healthy lifestyle in the current situation where there is no definitive cure for the disease. Other reasons include the development and communication of standard protocols for healthy lifestyles by the Ministry of Health since the onset of the Covid-19 outbreak as well as the efforts of hospital officials to implement these protocols, which have played an influential role in improving the lifestyle of the treatment team. In this regard, Mohammad et al. (2021) reported in a study that nurses were able to provide high-quality care in addition to maintaining their health by increasing their knowledge and applying it during the Covid-19 pandemic (Mohammed et al., 2021). Hadi et al. also stated that nurses with good knowledge about lifestyle and up-to-date information could fight wrong living habits (Hadi & Barazandeh, 2007).

Contrary to the results of the present study, Melnyk et al. concluded that nurses experienced worse mental and physical health issues due to the Covid-19 pandemic in more than 50% of cases. Nurses were not well supported during the pandemic. Nurses were more likely to have better mental and physical health, less stress and burnout, as well as higher quality of life during the pandemic in a supportive work environment (Melnyk et al., 2022). The discrepancy between the results of this study and the findings of the present study may be attributed to the lack of adequate workplace support. The results of several studies on other sections of society who were not members of the treatment team showed a decline in their lifestyle during the Covid-19 pandemic (Al Thobaity & Alshammari, 2020; Martínez-de-Quel et al., 2021; Melnyk et al., 2022). The decline in healthy lifestyle in these studies may be due to poor knowledge and awareness of people about the necessity and method of observing a healthy lifestyle in accordance with the Covid-19 conditions. To prevent the spread of the virus, governments have imposed restrictions on outdoor activities or even quarantine periods for all sections of society, which has disrupted their healthy lifestyles (Mattioli & Ballerini Puviani, 2020). Therefore, it can be stated that most people experienced a sedentary lifestyle due to quarantine conditions, while the treatment team, especially nurses, experienced a higher workload during the Covid-19 pandemic than the pre-epidemic period.

In the present study, the highest score of the lifestyle subscale was related to "nurses' competence." In a similar study titled "Nurses' lifestyle", Mahmoudi Shen et al. reported that the highest mean score for the lifestyle dimensions was

Table 2. Regression Analysis of Predictors of Global Lifestyle.

Variable	B	SE	β	p-value
(Constant)	4.339	.121		
Sex	-0.191	0.059	-0.211*	0.001
Marriage	-0.127	0.051	-0.159**	0.013
Work shift	0.049	0.021	0.151***	0.021
Years of work experience	0.007	0.004	0.117	0.047
Adjusted $R^2=0.356$, $f=8.867$				

related to nurses' competence (Mahmoodi Shan et al., 2014), which is consistent with the present study. This consistency of the results may be because of using a standard instrument in both studies. The results of some studies indicate a direct relationship between the level of competence of nurses and the practical use of skills so that the more competent a nurse is, the more likely (s) he is to use his/her clinical skills in practice, which ultimately improves the quality of patient care (Adib Hajbaghery & Eshraghi Arani, 2018). In the current situation, due to the high global prevalence of Covid-19 disease and the lack of definitive treatment, it is highly necessary to provide high-quality care to these patients. In this regard, the high competence of nurses in the present study is regarded as an evident and valuable finding.

In the present study, factors such as sex, marriage, work shift, work experience were practical on the lifestyle of nurses with Covid-19. In a study on nurses, Hassanpour et al. showed a statistically significant relationship between lifestyle components with sex, marriage, length of employment, and shift work, which were referred to as factors affecting the lifestyle of nurses (Hassanpour et al., 2016). The results of Mahmoudi Shen et al.'s study also showed a significant relationship between nurses' lifestyles with their marriage and work shift. In other words, nurses who were married or had fixed work shifts had a better lifestyle than other nurses (Mahmoodi Shan et al., 2014), which is consistent with the present study. Most of the nurses in the present study were female (78.4%) and also married (68.4%). The fact that marriage and sex had a significant effect on lifestyle in the present study could be attributed to the role of mother and providing care by women in the family because mothers play a crucial role in implementing a healthy lifestyle in the family in the Iranian cultural context. The nurses of the present study have the experience of developing Covid-19; hence, according to their previous experience and high knowledge, they attempt to support themselves and their families in this disease by observing a healthy lifestyle.

In the present study, work shifts and work experience were effective on the lifestyle of nurses with Covid-19. That is, a fixed work shift and longer work experience had improved the lifestyle of nurses. Ghanbary et al. showed that nurses with rotational work shifts, including night shifts, had lower scores on eating patterns and habits, stress, exercise, physical activity, interpersonal relationships, and also the overall lifestyle score compared to nurses with fixed work shifts and morning shifts. The researchers advised nurses not to engage in rotational and night shifts for a long time in order to promote their health and lifestyle (Ghanbary Sartang et al., 2016). Most of the nurses with rotational work shifts will experience unpleasant consequences on their everyday life, many of which are uncontrollable and endanger the health of nurses (Nena et al., 2018). The results of Hassanpour et al.'s study also showed a negative correlation between work shifts and the number of night

shifts with the components of nurses' lifestyles. Basically, in these work shifts, sweet foods, snacks, and foods with low nutritional value are considered as more available options and the increasing number of night shifts leads to increased lousy eating habits and insomnia-induced stress in nurses (Hasanpour et al., 2016). In this regard, the results of several other studies showed that nurses with fixed work shifts have better sleep quality, and increasing the quality of nurses' sleep can improve their quality of life and also improve the quality of nursing care (Hasanpour et al., 2016; Mahmoudi Shan et al., 2014; Nena et al., 2018), which is of particular importance considering the current Covid-19 pandemic and the need for high-quality care for these patients.

Strengths and Limitations

One of the strengths of the present study is that the present study is based on the people's needs due to the Covid-19 pandemic. The use of cross-culturally adapted and dedicated nurses' lifestyle instruments is another strength of the present study. One of the limitations of the present study was the lack of cooperation of nurses with Covid-19 in the acute phase. To overcome this limitation, nurses entered the study after reviving from the disease symptoms.

Conclusion

Finally, the results of the present study showed that the nurses with Covid-19 had an acceptable lifestyle. Factors such as sex, marriage, work shift, and work experience affect the lifestyle of nurses with Covid-19. Accordingly, it is necessary to design programs such as reducing the workload and working hours, working in fixed shifts, reducing stress, comprehensive support for Covid-19 staff, and continuous in-service training, especially for inexperienced and novice staff. It is suggested to carry out further research on nurses and other treatment team members in different parts of Iran. Qualitative research is also recommended to explain the lifestyle more efficiently.

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


Ethical

The study design has been studied by the Ethics Committee of Tehran University of Medical Sciences and has been registered with the ethics code (IR.TUMS.MEDICINE.REC.1399.1070). Researchers adhered to the principles of research ethics in all stages of the research and sampling was carried out after obtaining informed consent.

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