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CARING PSYCHIATRIC PATIENTS AND ITS IMPACT ON NURSES' BEHAVIOR: A CROSS-SECTIONAL QUANTITATIVE METHOD STUDY IN SAUDI ARABIA

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Abstract

Objective: The present study aimed to address the care of psychiatric patients and its impact on nurses' behavior in Saudi Arabia.

Methods: A cross-sectional quantitative questionnaire-based study was conducted. This study was carried out in various government hospitals across different regions of Saudi Arabia. **Results:** A total of 73 nurses participated in the study, with male nurses comprising the majority (61.6%) compared

to females. Being a young nurse or with few years of work experience is linked with more predilection towards preventive behaviour and/or physical activity. A significant mean difference was observed, indicating higher scores for preventive behavior among females (female 14.93 ± 5.82 vs. male 11.56 ± 5.48, $P = 0.015$). The Bonferroni post hoc multiple comparisons did not reveal any statistical significance for single vs. married ($P = 0.618$), single vs. divorced ($P = 0.223$), and married vs. divorced ($P = 0.020$).

Conclusion: The study results demonstrated a significant impact of caring for psychiatric patients on nurses' behavior. This is concerning because psychological and mental health strain has been shown to contribute to unhealthy lifestyle habits, such as physical inactivity and sleep deprivation, which, in turn, can contribute to the increasing incidence and prevalence of chronic diseases. Healthcare interventions targeting psychiatric and mental health nurses should be designed and examined to emphasize the importance of healthy lifestyle choices and an active lifestyle.

Keywords: nurses; psychiatric patients; behaviour; Saudi Arabia

Background

According to the World Health Organization, psychiatric patients should be treated with the same care and attention as innocent children [1]. They require additional care, protection, and attention and their treatment should be based on the concept of unconditional positive regard, which has been proven to yield productive results in their recovery [2]. To address these needs, practical training programs focusing on sharing and protection perspectives in the clinical department are conducted annually for nurses worldwide [3].

Nurses play a crucial role in the care of psychiatric patients, particularly in the psychiatric ward. Providing meticulous care, demonstrating empathy, and exhibiting sympathetic behavior are essential when treating psychiatric patients, as they often lack conscious awareness, struggle with accepting reality, and experience anxiety related to themselves, others and their environment [4]. Any profession can bring about various behavioral changes in employees within their work environment. These changes can impact both the employees and the organization as a whole, affecting employees' effectiveness and organizational performance. Caring for individuals with mental disabilities and psychiatric patients is undoubtedly a challenging task [5]. Behavior encompasses observable actions, emotions, movements, and thoughts. It encompasses a wide range of behaviors, including voluntary versus involuntary behavior, overt versus covert behavior, and molecular versus molar behavior [6].

The patient healthcare system relies heavily on nursing behavior in clinical settings [7]. Numerous studies have reported that nursing behavior towards psychiatric patients greatly influences patient care and concern [8]. It is crucial to consider and evaluate nurses' behavior to determine the recovery of psychiatric patients [9]. Additionally, it is important to note that due to the frustration, agitation, and irritability that can arise from consistently working with such patients, nurses may experience a shift in behavior and attitude from positive to negative.

Understanding the personality and responsibilities of nurses in a hospital setting is of utmost importance, as nurses play a vital role in providing healthcare services for the community and society [10]. Their well-being and mental state should be properly addressed and managed before assigning them to a specific department within the hospital [11]. The present study addressed the nurse's

behavior regarding treating psychiatric patients. The study examines the number of behaviours that have been executed in the clinical settings of psychiatry [12]. Furthermore, the quantitative assessment provides comprehensive data on patient care services and nursing perspectives on behavior. The specific objective of the study was to investigate the impact of caring for psychiatric patients on nurses' behavior, specifically in relation to nutrition, physical activity, relaxation, mental health, and preventive behaviors. The study aimed to assess this impact among nurses from various hospitals in different regions of Saudi Arabia, including Taif, Al-Qassim, Madinah, Eastern, and Jizan.

Methods

Research design

The cross-sectional quantitative method was used for this study.

Setting

This study was conducted in various government hospitals across different regions of Saudi Arabia, including Taif (Eradah and Mental Health Complex), Jeddah (Al-Amal and Mental Health Hospital), Al-Madinah (Al-Amal and Mental Health Hospital), Jizan (Eradah and Mental Health Hospital), Al-Qassim (Al-Amal and Mental Health Hospital) and the Eastern region (Al-Amal and Mental Health Hospital).

Study population and sampling

For this study, a non-probability-based convenience sampling technique was employed to select nurses from the targeted hospitals who are involved in the care of psychiatric patients.

Inclusion criteria and exclusion criteria

Only those nurses who were willing to participate, currently caring for psychiatric patients, and had a minimum of two years of work experience with psychiatric patients were included. Participants who did not meet these inclusion criteria were excluded from the study. Additionally, those who were unable to provide signed informed consent and those who submitted incomplete forms were also excluded. Written informed consent was obtained from all subjects involved in the study.

Tools and questionnaire of the study: in this study a questionnaire booklet was comprised on three parts

1. First part was consisted of the inform consent form.
2. Second part obtained demographical information of the participants.
3. Positive Health Behaviors Scale: this scale, developed and validated by Woynarowska-Sołdan, Panczyk, et al. using a sample of nurses in Poland, assesses four main areas of behavioral change among nurses when providing patient care [13]. The scale consists of four sub-domains comprising a total of 29 items, and respondents rate their behavior on a 4-point scale ranging from 0 (always or almost always) to 3 (never or almost never). The scale has demonstrated good psychometric properties in terms of validity and reliability, with a reliability coefficient (a) of 0.823 [13].

The procedure of data collection

Data collection for this study took place over a one-month period (May 2022 to June 2022). The study's purpose and procedures were explained to the head of the nursing department and the

participants at the health authorities of Qassim, Taif, Al-Madinah, Jizan, Jeddah and the Eastern Region. After obtaining permission and cooperation for the study, data were collected from the selected participants. Prior to commencing the study, the researcher clarified the study's objectives to the participants and assured them of the confidentiality of their personal records. To gather the required information, a survey form was utilized that include specific sections for record forms to get the required information from the staff personal file of those participants.

Analysis of data

Data entry and analysis were performed using the Statistical Package for the Social Sciences for Windows, version 22.0 (IBM Corp., Armonk, NY, USA). Continuous data were presented as mean and standard deviation, while categorical data were presented as frequency and percentage. An independent sample t-test was conducted to assess the mean difference between two categorical variables. For comparisons among three or more independent groups, ANOVA, an extension of the independent samples t-test, was utilized, followed by Bonferroni post hoc analysis for variables that showed statistical significance. A P-value < 0.05 was considered statistically significant for all tests, except for Bonferroni post hoc analysis, where the critical value of 0.05 was adjusted by dividing it by the number of comparisons made. For example, if three comparisons were made, the adjusted critical value would be $P = 0.017$.

Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of MINISTRY OF HEALTH, Makkah region (H-02-K-076-0922-797 and date of approval 27-09-2022)." The data were treated as confidential and used solely for research purposes.

Results

A total of 73 nurses participated in the present study, with a mean age of 34.60 ± 4.16 years. Male nurses constituted the majority of participants (N = 45, 61.6%) compared to females (N = 28, 38.4%). The majority of the study nurses were residents of urban regions in Saudi Arabia (N = 69, 94.5%). Over two-thirds of the nurses were married (N = 53, 72.6%), followed by single (N = 15, 20.5%) and divorced (N = 5, 6.8%) individuals. Similarly, most study nurses identified as followers of the Muslim faith (N = 69, 94.5%). In terms of educational level, slightly over half of the nurses had completed a bachelor's degree (N = 38, 52.1%), followed by a diploma (N = 27, 37.0%) and a master's degree (N = 8, 11.0%). The mean work experience of the nurses was 10.00 ± 4.44 years. Table 1 presents the sociodemographic characteristics of the study participants.

The Positive Health Behaviour Scale included a total of 28 statements regarding health-promoting behaviours such as nutrition, physical activity, relaxation and behaviours related to mental health, and preventive behaviours. The mean scores for each subscale were as follows: 11.86 ± 5.16 for nutrition, 5.62 ± 3.25 for physical activity, 10.82 ± 3.87 for relaxation and mental health-related behaviors, and 12.85 ± 5.81 for preventive behaviors. Table 2 displays the mean scores with their respective minimum and maximum values for each subscale. Furthermore,Table 3 presents the frequency and overall number of responses for each item within the Positive Health Behavior Scale subscale.

The correlation analysis revealed a statistically significant, albeit weak, inverse relationship between age and preventive behaviors ($r = -0.244$, $P = 0.038$), as well as between work experience and

physical activity (r = −0.264, $P = 0.024$) and preventive behaviors (r = −0.306, $P = 0.008$) (Table 4). This indicates that being a young nurse or with few years of work experience is linked with more predilection towards preventive behaviour and/or physical activity.

To examine the mean differences in the Positive Health Behavior Scale (in points) based on sociodemographic characteristics, an independent sample t-test was conducted (Table 5). No statistically significant associations were found between the points in the nutrition subscale and gender ($P = 0.180$), residence ($P = 0.300$), or religion ($P = 0.148$). Similarly, no statistical significance was observed for the physical activity and relaxation and behaviors related to mental health subscale when compared with gender, residence, and religion ($P > 0.05$). However, a significant mean difference was noted for the preventive behavior scores, with higher scores observed in females (female: 14.93 ± 5.82 vs. male: 11.56 ± 5.48, $P = 0.015$).

Table 1 Sociodemographic factors of the respondents (N = 73)

Variables	N (%)
Age (years, mean ± standard deviation)	34.60 ± 4.16
Gender	
Female	28 (38.4)
Male	45 (61.6)
Residence	
Rural	4 (5.5)
Urban	69 (94.5)
Marital status	
Single	15 (20.5)
Married	53 (72.6)
Divorced	5 (6.8)
Religion	
Other faith	4 (5.5)
Muslim	69 (94.5)
Education	
Diploma	27 (37.0)
Bachelors	38 (52.1)
Masters	8 (11.0)
Work experience (years, mean ± standard deviation)	10.00 ± 4.44

Table 2 Descriptive statistics for the Positive Health Behaviour Scale (in points)

Subscales (points)	Mean	Standard deviation	Minimum	Maximum
Nutrition	11.86	5.16	2	24
Physical activity	5.62	3.25	0	12
Relaxation and behaviors related to mental health	10.82	3.87	3	18
Preventive behaviors	12.85	5.81	1	27

Table 3 Positive Health Behavior Scale (N = 73)

Behavior	Never or almost never N (%)	Sometimes N (%)	Often N (%)	Always or almost always N (%)
Nutrition				
N1. I have at least 3 meals a day with a regular meal pattern	8 (11.0)	16 (21.9)	33 (45.2)	16 (21.9)
N2. I have breakfast at home every morning (more than a glass of milk, tea or other beverage)	25 (34.2)	19 (26.0)	20 (27.4)	9 (12.3)
N3. I eat fruit at least once a day	18 (24.7)	37 (50.7)	9 (12.3)	9 (12.3)
N4. I eat vegetables at least once a day	14 (19.2)	38 (52.1)	13 (17.8)	8 (11.0)
N5. I drink at least 2 glasses of milk, kefir or yogurt daily	23 (31.5)	30 (41.1)	15 (20.5)	5 (6.8)
N6. I limit the intake of animal fats	18 (24.7)	30 (41.1)	17 (23.3)	8 (11.0)
N7. I limit the intake of salt	14 (19.2)	32 (43.8)	20 (27.4)	7 (9.6)
N8. I limit the amount of consumed sweets	11 (15.1)	21 (28.8)	26 (35.6)	15 (20.5)

N9. I avoid snacking between meals (e.g. between lunch and a light afternoon meal)	11 (15.1)	31 (42.5)	18 (24.7)	13 (17.8)
Physical activity				
PA1. I exercise daily at least 30 minutes with moderate or vigorous intensity (e.g. jogging, brisk walking, practicing sport, gardening, working on a farm)	17 (23.3)	23 (31.5)	23 (31.5)	10 (13.7)
PA2. I do strength-building exercise for main muscle groups at least twice a week (e.g. raking leaves, carrying shopping bags (a heavy backpack), climbing stairs, exercise for abdominal muscles)	24 (32.9)	20 (27.4)	15 (20.5)	14 (19.2)
PA3. I increase physical activity and physical effort in everyday life (e.g. walking instead of driving, taking a bus, climbing stairs instead of using elevators)	16 (21.9)	28 (38.4)	16 (21.9)	13 (17.8)
PA4. I limit the time spent watching television	9 (12.3)	22 (30.1)	28 (38.4)	14 (19.2)
Relaxation and behaviors related to mental health				
R1. I get at least 6–7 hours of sleep every night	8 (11.0)	17 (23.3)	25 (34.2)	23 (31.5)
R2. I spend at least 20-30 minutes a day resting/relaxing (e.g. chilling out, doing relaxation exercises, doing what I like)	16 (21.9)	21 (28.8)	24 (32.9)	12 (16.4)
R3. I cope well with stress	3 (4.1)	17 (23.3)	35 (47.9)	18 (24.7)
R4. I am positive about myself and the world	5 (6.8)	13 (17.8)	30 (41.1)	25 (34.2)
R5. I ask other people for help in difficult situations (e.g. family, friends)	12 (16.4)	21 (28.8)	22 (30.1)	18 (24.7)
R6. I spend time with colleagues/friends at least once a month	8 (11.0)	15 (20.5)	24 (32.9)	26 (35.6)
Preventive behaviors				
PB1. From September to April I take vitamin D	37 (50.7)	15 (20.5)	11 (15.1)	10 (13.7)
PB2. I avoid excessive sunbathing (e.g., I use creams with sun protection factor, head cap, I avoid sun exposure between 10 AM and 2 PM)	19 (26.0)	21 (28.8)	15 (20.5)	18 (24.7)
PB3. I brush my teeth at least twice a day	8 (11.0)	12 (16.4)	17 (23.3)	36 (49.3)
PB4. I have a dental check-up every 6 months	27 (37.0)	15 (20.5)	17 (23.3)	14 (19.2)
PB5. I measure blood pressure once a year	17 (23.3)	12 (16.4)	16 (21.9)	28 (38.4)
PB6. I have a flu vaccine according to recommendations	12 (16.4)	15 (20.5)	18 (24.7)	28 (38.4)
PB7. I perform a breast self-examination once a month	41 (56.2)	8 (11.0)	14 (19.2)	10 (13.7)
PB8. I have a smear test at least once every 3 years, as prescribed by a physician	53 (72.6)	5 (6.8)	7 (9.6)	8 (11.0)
PB9. If I get sick and have a doctor's appointment, I follow doctor's recommendations	8 (11.0)	12 (16.4)	22 (30.1)	31 (42.5)

Table 4 Correlation analysis

Subscales	Age (r)	*P*-value	Work experience (r)	*P*-value
Nutrition	−0.079	0.506	−0.069	0.561
Physical activity	−0.179	0.129	−0.264	0.024
Relaxation and behaviors related to mental health	−0.136	0.253	−0.117	0.324
Preventive behaviors	−0.244	0.038	−0.306	0.008

Table 5 Mean difference* of Positive Health Behaviour Scale (in points) based on sociodemographic characteristics

Subscales	Mean	Standard deviation	*P*-value
Nutrition			
Gender			
Female	12.89	5.73	0.180
Male	11.22	4.72	
Residence			
Rural	9.25	2.63	0.300
Urban	12.01	5.24	
Religion			
Other faith	15.50	4.51	0.148
Muslim	11.65	5.14	
Physical activity			

Gender			
Female	5.79	3.24	0.728
Male	5.51	3.29	
Residence			
Rural	4.25	1.71	0.390
Urban	5.70	3.31	
Religion			
Other faith	6.50	2.38	0.579
Muslim	5.57	3.30	
Relaxation and behaviors related to mental health			
Gender			
Female	11.04	4.31	0.713
Male	10.69	3.62	
Residence			
Rural	11.25	2.22	0.822
Urban	10.80	3.96	
Religion			
Other faith	11.25	3.95	0.822
Muslim	10.80	3.90	
Preventive behaviors			
Gender			
Female	14.93	5.82	0.015
Male	11.56	5.48	
Residence			
Rural	13.75	4.27	0.752
Urban	12.80	5.91	
Religion			
Other faith	16.50	7.05	0.198
Muslim	12.64	5.72	

* Independent sample t-test.

Finally, we conducted one-way ANOVA to analyze the mean differences in Positive Health Behavior Scale (in points) based on marital status and education (Table 6). No statistically significant differences were observed in the subscale points when comparing marital status with nutrition (P = 0.164), physical activity (P = 0.063), and relaxation and behaviors related to mental health (P = 0.343). However, a significant relationship with high mean scores for preventive behavior was noted among divorced nurses (single: 14.00 ± 7.14 vs. married: 11.92 ± 5.07 vs. divorced: 19.20 ± 5.26, P = 0.017). Similarly, a comparison of education with nutrition (P = 0.293), physical activity (P = 0.556), relaxation and education and behaviours related to mental health (P = 0.551), and preventive behaviour (P = 0.839) was found to be statistically insignificant. The Bonferroni post hoc multiple comparisons did not reveal any statistical significance for single vs. married (P = 0.618), single vs. divorced (P = 0.223), and married vs. divorced (P = 0.020). Table 7 presents the results of the post hoc test multiple comparisons for marital status and preventive behavior.

The Bonferroni post hoc comparison critical P-value of 0.05 was divided by the number of comparisons made. Therefore, three comparisons were made, the critical value of 0.05 was divided by 3 and the adjusted new critical value is P = 0.017.

Discussion

Of late, there has been increasing recognition and emphasis on individual lifestyle choices that have immediate effects on health and well-being [14, 15]. A healthy lifestyle encompasses adopting health-focused behaviors that preserve and promote health, while minimizing or eliminating hazardous behaviors that can cause immediate or long-term harm to health [16]. Work-related stress can have a

significant impact on an individual's physical and psychological well-being, subsequently affecting work productivity and efficiency [17]. According to the World Health Organization,

Table 6 Mean difference* of Positive Health Behaviour Scale (in points) based on marital status and education

Subscales	Mean	Standard deviation	*P*-value
Nutrition			
Marital status			
Single	10.53	6.06	0.164
Married	11.89	4.81	
Divorced	15.60	4.98	
Education			
Diploma	10.63	4.66	0.293
Bachelors	12.53	4.88	
Masters	12.88	7.61	
Physical activity			
Marital status			
Single	5.80	3.34	0.063
Married	5.26	3.07	
Divorced	8.80	3.70	
Education			
Diploma	5.07	3.56	0.556
Bachelors	5.95	2.94	
Masters	5.88	3.72	
Relaxation and behaviors related to mental health			
Marital status			
Single	11.27	4.43	0.343
Married	10.49	3.64	
Divorced	13.00	4.58	
Education			
Diploma	10.19	3.84	0.551
Bachelors	11.13	3.77	
Masters	11.50	4.66	
Preventive behaviors			
Marital status			
Single	14.00	7.14	0.017
Married	11.92	5.07	
Divorced	19.20	5.26	
Education			
Diploma	12.48	5.43	0.839
Bachelors	12.89	5.95	
Masters	13.88	6.98	

* one-way analysis of variance.

Table 7 Post hoc test multiple comparisons for marital status and preventive behavior

Marital status	Mean difference	Standard error	*P*-value
Single			
Married	2.08	1.63	0.618
Divorced	−5.20	2.87	0.223
Married			
Single	−.08	1.63	0.618
Divorced	−7.26	2.60	0.020
Divorced			
Single	5.20	2.87	0.223
Married	7.28	2.60	0.020

work-related stress is a prevalent issue [18]. The nursing profession is often regarded as physically

and mentally demanding due to its complex demands, high expectations, accountability, and limited authority [19].

Work-related stress among psychiatric nurses also affects their quality of life, which in turn impacts the quality of care provided [20]. The importance of nurses' quality of life cannot be disregarded, as they are responsible for the well-being of patients and can provide effective healthcare services when they are in a state of physical and mental well-being and have a better quality of life [21]. Psychiatric nurses work closely with patients, leading to increased nurse-patient interaction and higher exposure to work-related stress. This can result in significant changes and neglect in nurses' behaviors towards their own health [20]. To the best of our knowledge, this is the first study in Saudi Arabia to evaluate the impact of caring for psychiatric patients on nurses' behavior using the Positive Health Behavior Scale.

A few research studies have confirmed that nurses working in mental health and psychiatry ward deal with enormous stress and often abandon their own health with prevailing health risky behaviours [22, 23]. A cross-sectional study conducted among mental healthcare professionals in Jeddah, Saudi Arabia reported that nurses (30%) were the most commonly affected by stress [24]. Another recent cross-sectional survey among Chinese psychiatric nurses found a positive correlation between sleep quality and psychological distress [23].

In our study, regarding the differences in mean points on Positive Health Behaviour Scale for sociodemographic characteristics, higher preventive behaviour scores were noted for the female gender. One possible explanation for this could be the general tendency of female nurses to be more proactive in terms of health and preventive behaviors [25]. Another plausible explanation could be that females reported lower levels of emotional exhaustion compared to males, as reported in a study conducted in Saudi Arabia by Alqarni et al. (2022), which may enable them to be more mindful and take care of their health and well-being [24]. There is abundant research evidence from studies conducted on the general population indicating that physical activity significantly improves mental health and reduces anxiety and depression [26, 27].

With reference to correlation analysis, age was found to be weakly and inversely related to preventive behaviors and work experience to physical activity and preventive behaviors. This suggests that being a young nurse or having fewer years of work experience is associated with a greater inclination towards preventive behavior and/or physical activity. This may be attributed to young nurses being more conscious of their health, nutrition intake, and body image [28]. However, a qualitative study on nurses identified potential factors that could influence the dietary behavior of nurses, such as nursing roles and responsibilities, restricted movement due to the nature of the nursing job, limited control over dietary choices, unhealthy hospital food, and shift work [29].

The findings of this study highlight the impact of work-related stress on the personal health of nurses working in psychiatric wards. Therefore, it is important to consider and implement interventions that recognize the needs of nurses in high-stress environments and address them effectively. Some research studies have demonstrated a reduction in stress burden among healthcare professionals in mental health settings [30, 31]. For example, a systematic review of interventional studies evaluated the efficacy of support interventions for nurses working in acute settings of psychiatric wards. The interventions included mindfulness-driven stress reduction, communication skills training, burnout prevention programs, educational programs, resilience training programs, group interventions, and stress management techniques. The reported results suggested that the interventions were successful in developing skills related to dealing with stress among psychiatric nurses. Educational and

psychological support, interpersonal skills, and adaptive coping strategies were identified as key components of these interventions [31].

We believe that interventions aimed at developing skills to cope with work-related stress among nurses working in mental health and psychiatric environments will undoubtedly help them improve their quality of life. These interventions can include adopting a healthy approach, such as maintaining a nutritious diet, leading a physically active lifestyle, practicing meditation, acquiring skills to cope with mental stress, and engaging in health preventive and promoting behaviors. However, further research is required to identify the health-risky behaviors among psychiatric nurses and design specific interventions to address them.

There are a few limitations of the current study that merit discussion. Firstly, although it was a multi-center cross-sectional observational research study, it was conducted on a relatively small sample size, which substantially limits the generalizability of the findings to other regions of Saudi Arabia. The small sample size and low participation of nurses can be attributed to the high nursing and administrative workload in hospital settings. Secondly, rural nurses were underrepresented in the present study sample, which may also limit the application of the results in a broader context to this sub-cohort of nurses. Thirdly, we observed that younger nurses or those with fewer years of work experience tended to exhibit a higher tendency towards preventive behavior and/or physical activity. This may introduce bias in our results since our study sample consisted mainly of younger nurses working in the psychiatry ward. Fourthly, there is a high probability that the mean scores in the 28-item Positive Health Behavior Scale are subject to reporting bias, as the research data were collected through a self-reporting survey questionnaire. Finally, the study results might be influenced by selection bias, as we believe that nurses who were even minimally psychologically affected by working in the psychiatry ward may have disproportionately taken part in this questionnaire-based research study.

Conclusion

In conclusion, the present study demonstrates that nurses working in psychiatric healthcare facilities in Saudi Arabia have lifestyle choices that are not conducive to their future health and well-being. These choices include nutrition, physical activity, relaxation, behaviors related to mental health, and preventive behaviors. This is concerning because psychological and mental health strain have a proven role in contributing to unhealthy lifestyle habits such as physical inactivity and sleep deprivation, which, in turn, can contribute to the growing incidence and prevalence of chronic diseases. From a policy and management standpoint, psychiatric and mental health hospital settings must plan strategies to reduce the mental strain that impacts the lifestyle choices, physical health, and quality of life of nurses. Healthcare interventions for psychiatric and mental health nurses targeting the significance of healthy lifestyle choices and active lifestyle should be designed and examined.

Author contributions

The Conceptualization of the study was made by F.K. and N.A. The methodology was conducted by G.M. and L.H. Formal analysis was conducted by M.A., and S.K. The investigation was done by H.R., A.K. and F.I.K. Data curation was made by A.A., F.A.A, G.K. writing of the original draft preparation was by N.A.A., whereas writing review and editing, was done by F.K. and M.S.A. The supervision of the research of done by F.K. All authors contributed in this research have been listed. All authors have read and agreed to the published version of the manuscript.

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Competing interests

The authors declare no conflicts of interest.

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