

THE IMPACTS OF NIGHT SHIFT DUTY ON QUALITY OF LIFE AMONG NURSES IN TERTIARY CARE HOSPITAL AT SWAT, PAKISTAN

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Abstract

Night shift work is a crucial aspect of healthcare, particularly among nurses. The study aims to assess the impact of night shift duty on the quality of life among nurses, focusing on physical, psychological, social, and environmental domains.

Objective: The objective of this study is to evaluate the effects of night shift duty on nurses' quality of life, identifying areas for improvement in their well-being and informing strategies to support their health and job satisfaction. **Methods:** This cross-sectional study used the WHOQOL-BREF questionnaire to assess the quality of life among night-shift nurses in a tertiary care hospital. The study population consisted of nurses working night shifts, selected through convenience sampling. Data collection involved distributing the questionnaire to participants, ensuring confidentiality and anonymity. **Results:** The study revealed significant effects of night shift duty on nurses' quality of life, particularly in physical (65.2% reported sleep disturbances) and psychological (72.1% reported emotional exhaustion) domains. Fatigue was reported by 80.5% of participants, while 55.6% reported moderate satisfaction with social support from colleagues.

Conclusion: Night shift duty has a profound impact on nurses' quality of life, highlighting the need for healthcare organizations to prioritize their well-being. Implementing flexible shift scheduling, mental health support programs, and workplace environment improvements can help mitigate the negative effects of night shifts. This study's findings can inform policies and interventions to support nurses working night shifts, ultimately enhancing their quality of life.

INTRODUCTION

Background of the Study

The World Health Organization (WHO) defines QoL as an individual's perception of their position in life, within the context of their culture and value systems,

and in relation to their goals and concerns (1). Maintaining a good QoL is vital for nurses, not just for their own health but also for their professional efficiency (2). Research shows that poor QoL among

nurses leads to issues like burnout, decreased job satisfaction, and negatively impacts the quality of care provided to patients (2, 4).

Introduction

Nurses are the backbone of the healthcare system, and their contributions have a profound impact on patient care and the overall performance of healthcare facilities (1). However, the demanding nature of the nursing profession, particularly for those assigned to night shifts, can have significant consequences on their well-being (1). Night shifts disrupt natural sleep patterns and increase stress levels, directly affecting nurses' quality of life (QoL) (3).

Physical Health

Night shift nurses experience sleep deprivation and chronic fatigue, weakening their immune system and increasing the risk of adverse health outcomes, such as cardiovascular disease, diabetes, and obesity (6, 7). The physically demanding nature of nursing exacerbates these health concerns, leading to chronic pain and musculoskeletal issues (8).

Psychological Well-being

Night shift nurses often suffer from mental health challenges, including social isolation, loneliness, anxiety, and depression (7, 9). The high-pressure healthcare environment, coupled with a lack of adequate rest, can lead to burnout, characterized by emotional exhaustion and diminished job satisfaction (8, 10).

Social Relationships

Night shifts strain nurses' relationships with family and friends, limiting their ability to participate in social activities and leading to feelings of isolation and loneliness (9, 11). This can further detract from their QoL and overall well-being.

Environmental Factors

The work environment during night shifts is often less supportive, with challenges like understaffing, limited access to resources, and a lack of immediate support from supervisors, contributing to a stressful work environment and diminishing overall well-being (10, 12).

Problem Statement

Night-shift nurses face unique and profound challenges that negatively affect their physical health, emotional well-being, social relationships, and workplace satisfaction (13). Despite their crucial role in patient care, the impact of these challenges remains underexplored, particularly in the Swat region.

Significance of the Study

This study aims to explore the effects of night shift work on nurses' QoL, utilizing the World Health Organization Quality of Life-BREF (WHOQOL-BREF) instrument to measure the effects (1). The WHOQOL-BREF questionnaire divides QoL into four primary domains: physical health, psychological well-being, social relationships, and environmental factors (1, 5).

Rationale of the Study

This study aims to address the critical but often overlooked impact of night-shift duties on nurses' QoL (14). Nurses are integral to healthcare delivery, yet their well-being is frequently compromised due to demanding schedules, particularly night shifts.

Literature Review

Quality of life (QoL) in the nursing profession has been increasingly studied due to the demanding nature of healthcare roles. Nurses, especially those in night shifts, face unique challenges that impact their physical, mental, and social well-being. QoL encompasses factors such as health, psychological status, social relationships, and environmental conditions (World Health Organization, 1998) (10).

Physical Health

Night shift work disrupts circadian rhythms, affecting nurses' sleep quality, fatigue levels, and physical health. Studies reveal that night-shift nurses often experience reduced sleep quality, leading to chronic sleep deprivation, which in turn increases the risk of cardiovascular diseases, obesity, and metabolic disorders (11). Sleep disturbances and inadequate rest from irregular shifts are primary reasons for increased health risks in nurses (12). For example, a study on Japanese nurses demonstrated that those working irregular shifts were more prone to gastrointestinal

and musculoskeletal issues due to disrupted sleep cycles (13).

Psychological Health

Psychological health is significantly impacted by night shifts. Many nurses working irregular hours report higher stress levels, anxiety, and even depressive symptoms. Night shifts contribute to social isolation, which can lead to loneliness and reduced mental well-being (14). Research highlights that nurses working nights often struggle with balancing work and family life, leading to emotional exhaustion and decreased job satisfaction (15).

Social Relationships

The social lives of night-shift nurses are heavily affected due to conflicting schedules with family and friends, limiting social interactions and family time. Studies have shown that social isolation is common among night-shift nurses, resulting in lower scores in the WHOQOL-BREF social relationships domain (16). For instance, recent research found that irregular work hours caused strained family relationships and limited social support, increasing the risk of burnout and dissatisfaction with their social lives. These findings align with a study in the Journal of Occupational Health, which notes that night shifts disrupt family roles and responsibilities, ultimately reducing overall QoL (17).

WHOQOL-BREF

The WHOQOL-BREF, developed by the World Health Organization, is a widely used instrument for assessing QoL. It evaluates physical health, psychological health, social relationships, and environmental factors, making it well-suited for studying the holistic impact of night shifts on nurses. Research by Moradi demonstrated that nurses working night shifts score lower in the WHOQOL-BREF physical and psychological domains, underscoring the detrimental effects of such shifts on overall well-being (18).

Material and Methods

Study design

This was a descriptive type of cross-sectional study.

Study setting

The study was conducted at Saidu Group of Teaching Hospital, Saidu Sharif Swat.

Study Period

From 1 July to 30 October.

Study population

The study population were nurses working in Saidu Group of Teaching Hospital.

Sample size and sampling procedure

Sample size was 111 Nurses and Convenience sampling technique was used.

Sample Selection

Inclusion criteria

Registered nurse (RNs) of both sexes who are at least 25 years old and have at least one year of clinical experience, Valid PNC license.

Exclusion criteria:

The participant who full filled the inclusion criteria but on leave, working at higher level (Administration level) and or mental issue were excluded.

Data collection procedure

Structured questionnaires were adapted (WHOQOL-BREF) for data collection (18).

Collected data analysis procedure

After collection of data, collected data were coded and entered into the SPSS version 27.0 software program for analysis. Descriptive statistical analysis was used to calculate the frequencies and percentages.

Ethical considerations

Objectives of the study explained in brief to the respondents.

Informed consent taken from each and every respondent before collection of data.

Privacy and confidentiality were ensured and maintained strictly.

Respondents have the right to withdraw themselves from the study any time during data collection period.

They assured that there would be no physical and mental harm to them during the study as there is no invasive procedure applied.

Results

Socio-demographic characteristics of the respondents (n=111)

Table 4.1. Age of respondents

Age	Frequency	Percent	Valid Percent	Cumulative Percent
25 and less than 25 years	45	40.5	40.5	40.5
26-35 years	50	45.0	45.0	85.6
36-45 years	14	12.6	12.6	98.2
46-55 years	2	1.8	1.8	100.0
Total	111	100.0	100.0	

The data reveals the age distribution of nurses participating in the study, showcasing the diversity of respondents across different life stages. The percentages are as follows:

25 years and less than 25 years (40.5%)

This represents the largest group, likely composed of younger nurses at the beginning of their careers. These nurses may bring energy and adaptability to their roles but could face challenges related to inexperience and adjusting to the demands of night shifts.

26–35 years (45.0%)

This group forms the majority, reflecting a mature yet relatively young workforce. Nurses in this age range often balance growing professional responsibilities

with personal commitments, which can heighten the impact of night-shift duties on their quality of life.

36–45 years (12.6%)

Nurses in this group are fewer, representing mid-career professionals. They may have established routines and coping mechanisms for managing night shifts but could also face cumulative physical and emotional stress.

46–55 years (1.8%)

The smallest group comprises older nurses nearing the later stages of their careers. Night-shift duties can be particularly strenuous for this age group due to age-related physical limitations and increased risk of chronic health conditions.

Table 4.2. Gender of respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	76	68.5	68.5	68.5
Female	35	31.5	31.5	100.0
Total	111	100.0	100.0	

Among the respondents, 68.5% were male and 31.5% were female. This reflects a higher representation of male nurses, contrasting with traditional gender trends in nursing globally, where females typically

dominate. The findings may suggest a regional variation or specific recruitment policies.

Table 4.3. Marital Status of Respondents

Marital Status	Frequency	Percent	Valid Percent	Cumulative Percent
Unmarried	59	53.2	53.2	53.2
Married	52	46.8	46.8	100.0
Total	111	100.0	100.0	

The sample included 53.2% unmarried and 46.8% married respondents. This nearly balanced

distribution indicates that family responsibilities and marital status may variably influence the quality of life

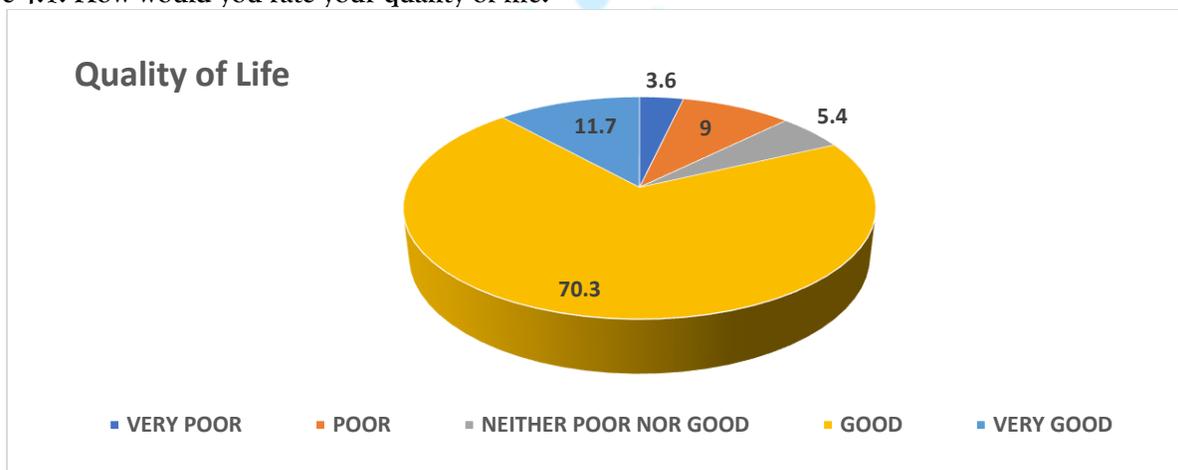
and coping mechanisms among nurses working night shifts.

Years of Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 years	69	62.2	62.2	62.2
6-10 years	18	16.2	16.2	78.4
11-15 years	14	12.6	12.6	91.0
16-20 years	8	7.2	7.2	98.2
21-25 years	2	1.8	1.8	100.0
Total	111	100.0	100.0	

The largest group of respondents had 1–5 years of experience (62.2%), followed by 6–10 years (16.2%), 11–15 years (12.6%), and 16–20 years (7.2%), with only 1.8% having 21–25 years of experience. This

indicates that the majority of participants are relatively new to the field, potentially less accustomed to the demands of night-shift duties.

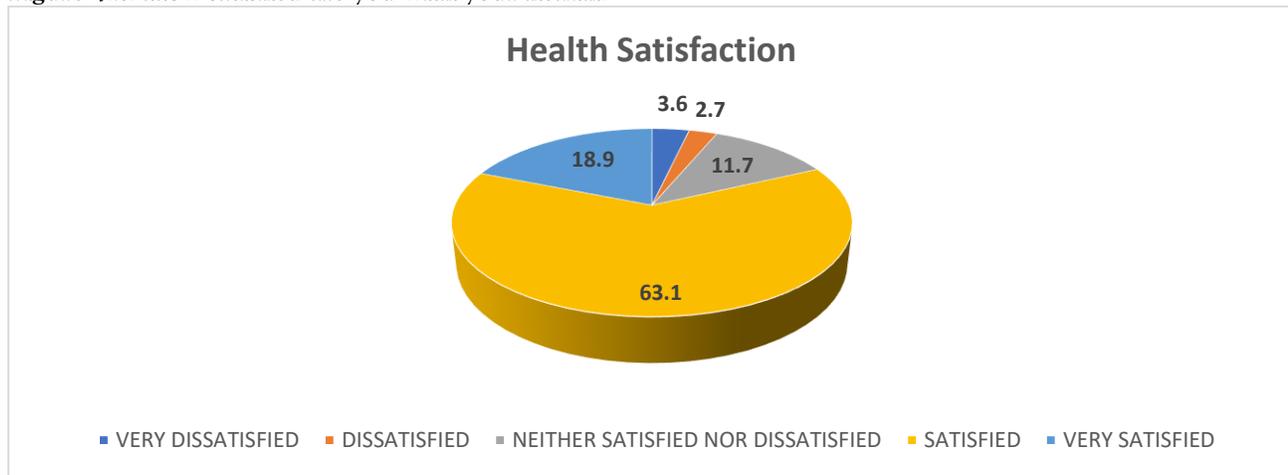
Following is distribution of respondents according to factors influencing of night shift (n=111)
 Figure 4.1. How would you rate your quality of life?



Most respondents rated their quality of life as Good (70.3%) or Very Good (11.7%), indicating overall positive perceptions. However, a minority reported it

as Poor (9.0%) or Very Poor (3.6%), highlighting the potential negative impact of night-shift duties on certain individuals.

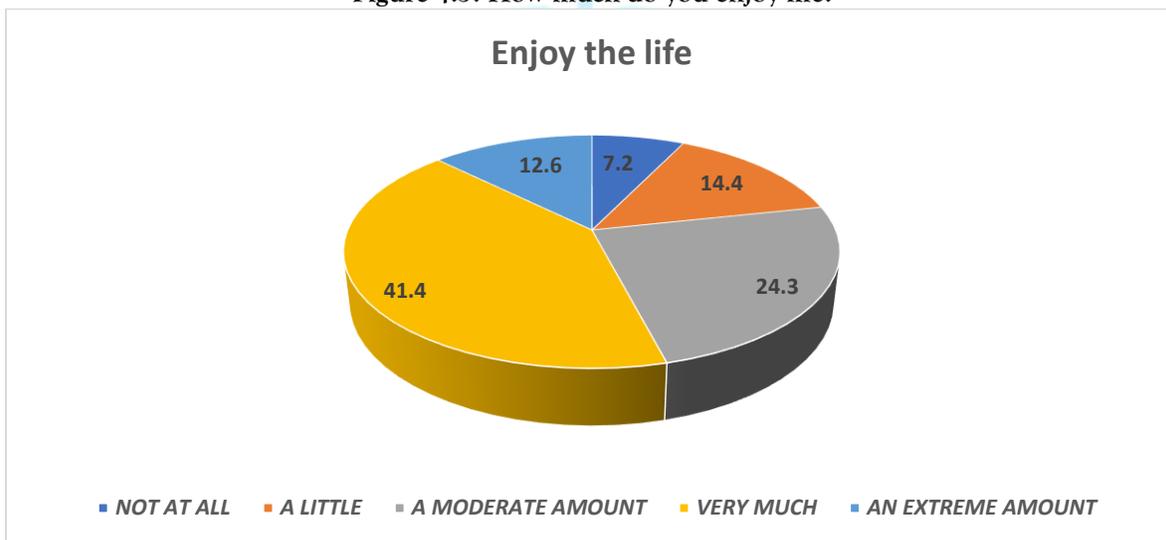
Figure 4.2. How satisfied are you with your health?



The majority were Satisfied (63.1%) or Very Satisfied (18.9%) with their health, reflecting a generally positive self-assessment. However, 3.6% were Very Dissatisfied, and 2.7% were Dissatisfied, suggesting

that a subset of nurses faces significant health challenges.

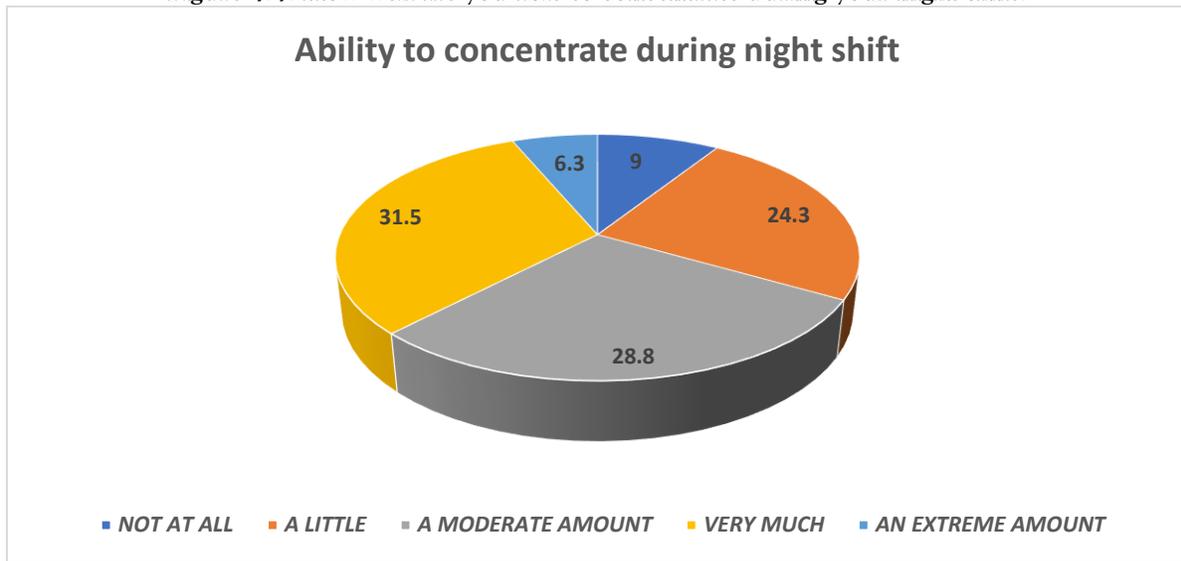
Figure 4.3. How much do you enjoy life?



Respondents mostly reported enjoying life Very Much (41.4%) or A Moderate Amount (24.3%). However, 7.2% indicated Not at All, and 14.4% A Little,

showing that a portion of the nurses may struggle with satisfaction in life due to work-related challenges.

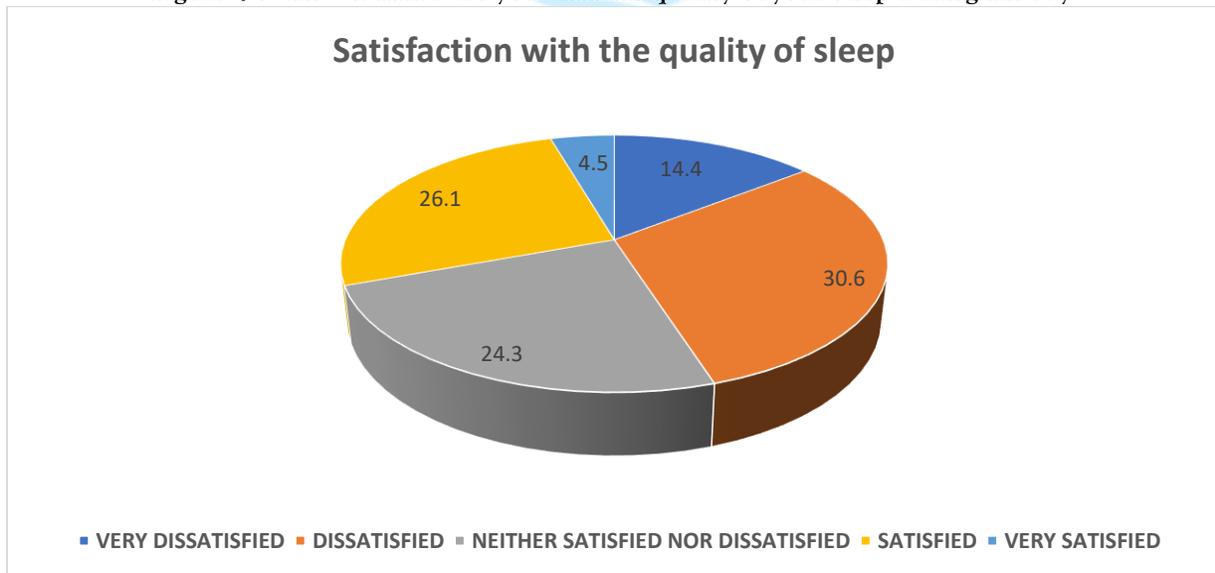
Figure 4.4. How well are you able to concentrate during your night shift?



Concentration levels during night shifts were rated as Very Much (31.5%) or A Moderate Amount (28.8%) by most respondents. However, 9.0% reported Not at

All, and 24.3% A Little, indicating that focus may be a significant challenge for some nurses.

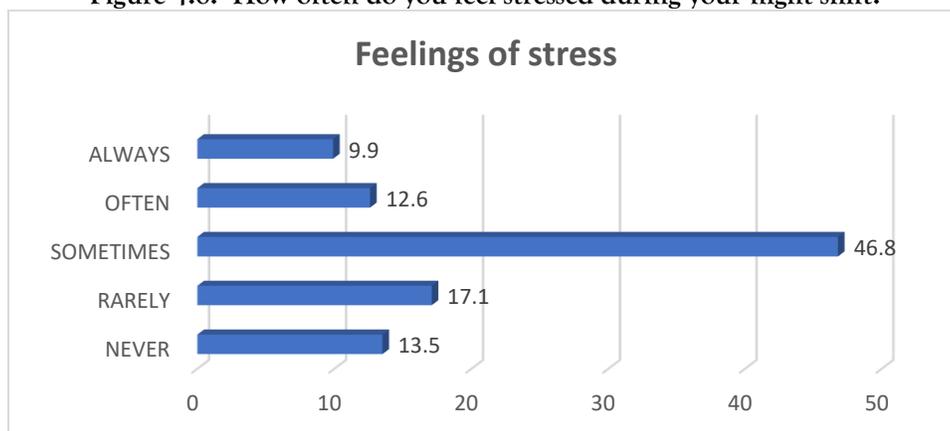
Figure 4.5. How satisfied are you with the quality of your sleep during the day?



Responses revealed dissatisfaction with sleep quality, with 30.6% Dissatisfied and 14.4% Very Dissatisfied. Only 26.1% were Satisfied, and 4.5% Very Satisfied,

underscoring the pervasive issue of disrupted sleep among night-shift nurses.

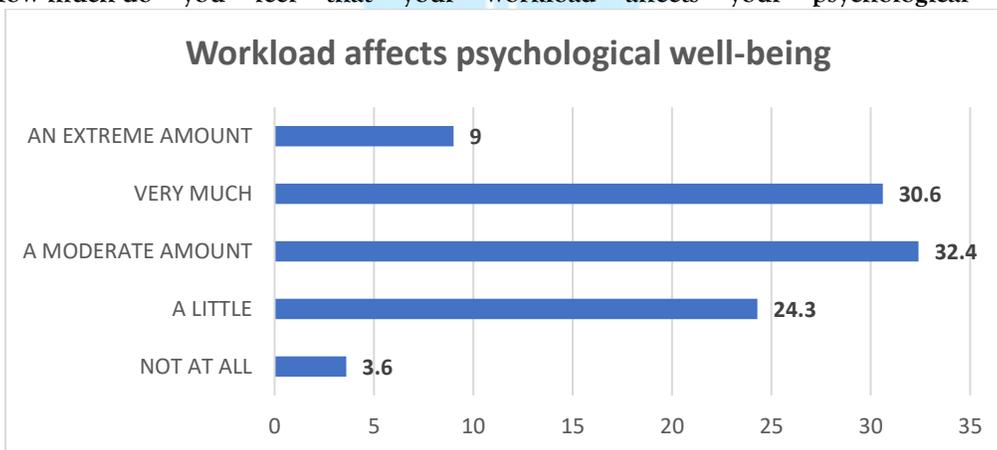
Figure 4.6. How often do you feel stressed during your night shift?



A significant proportion of respondents reported stress as a regular occurrence, with 46.8% Sometimes and 12.6% Often experiencing stress. However,

13.5% Never felt stressed, suggesting variability in stress management among nurses.

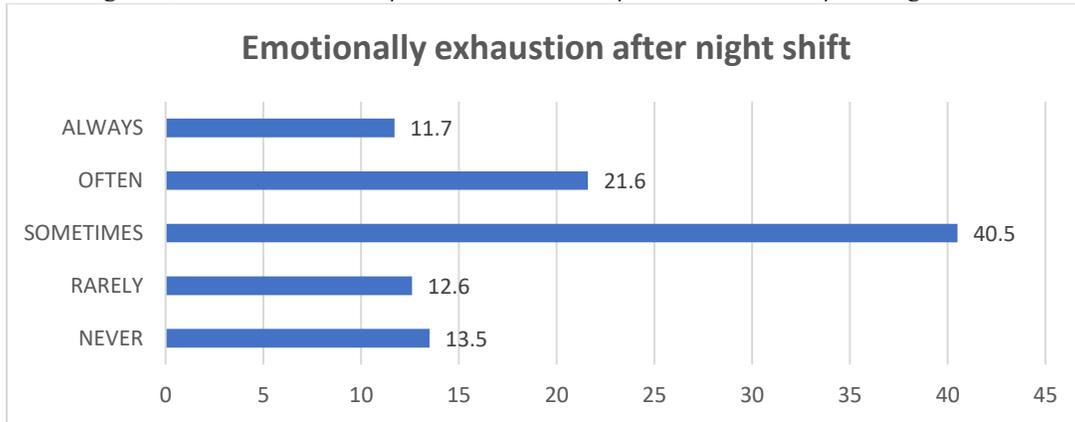
Figure 4.7. How much do you feel that your workload affects your psychological well-being?



Most respondents acknowledged that workload impacts their psychological well-being, with 32.4% A Moderate Amount and 30.6% Very Much. Only 3.6%

indicated Not at All, suggesting that workload is a significant stressor.

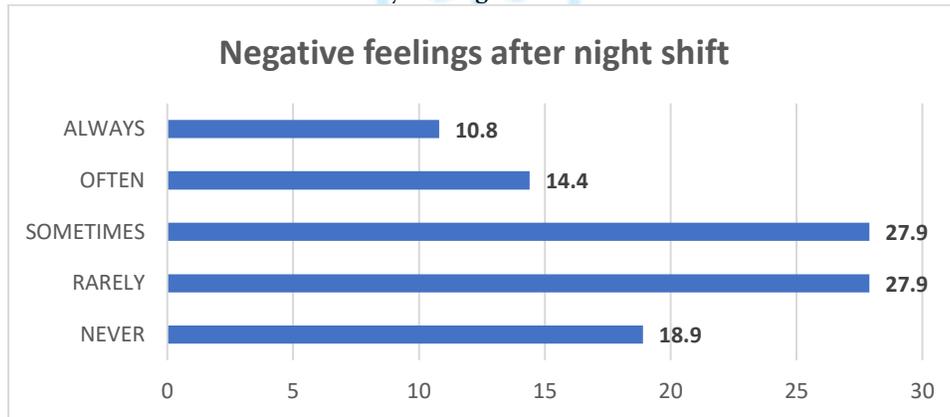
Figure 4.8. How often do you feel emotionally exhausted after your night shift?



Emotional exhaustion was a frequent experience for respondents, with 40.5% Sometimes and 21.6% Often feeling this way. Only 13.5% Never reported

emotional exhaustion, highlighting the emotional toll of night shifts.

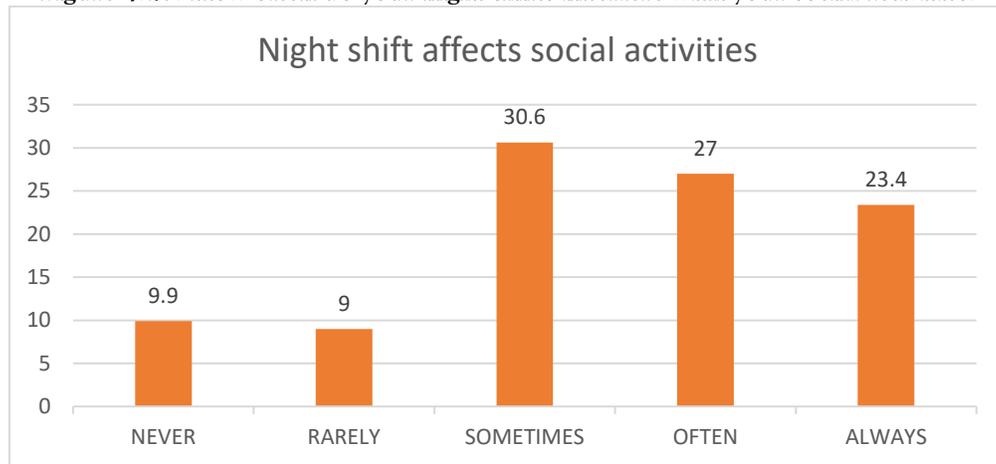
Figure 4.9. How often do you have negative feelings such as blue mood, despair, anxiety, or depression during your night shift?



Negative feelings were commonly reported, with 27.9% Sometimes and 14.4% Often experiencing them. However, 18.9% Never reported such feelings,

indicating variability in emotional responses among nurses.

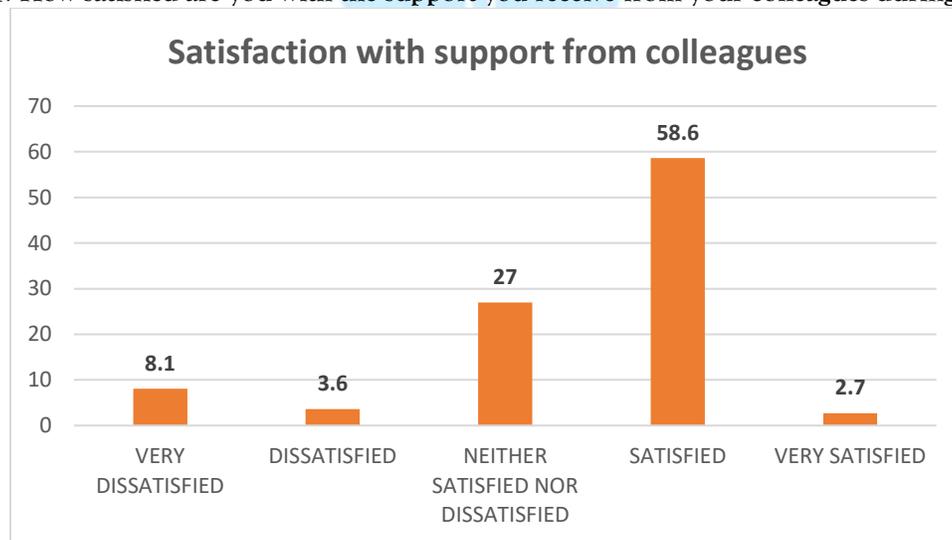
Figure 4.10. How often do your night shifts interfere with your social activities?



The majority of respondents reported interference with their social activities, with 30.6% Sometimes, 27.0% Often, and 23.4% Always. Only a small

fraction stated that night shifts Never (9.9%) or Rarely (9.0%) interfered. This highlights the significant social sacrifices made by nurses working night shifts.

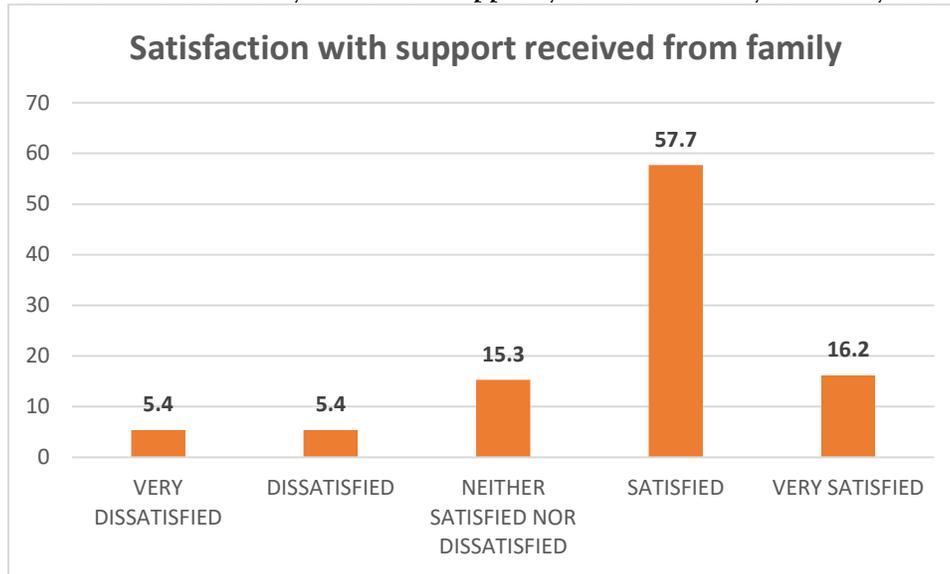
Figure 4.11. How satisfied are you with the support you receive from your colleagues during night shifts?



Most respondents were Satisfied (58.6%) with colleague support during night shifts, with a smaller portion Neither Satisfied nor Dissatisfied (27.0%).

However, 8.1% were Very Dissatisfied, indicating variability in workplace camaraderie and collaboration.

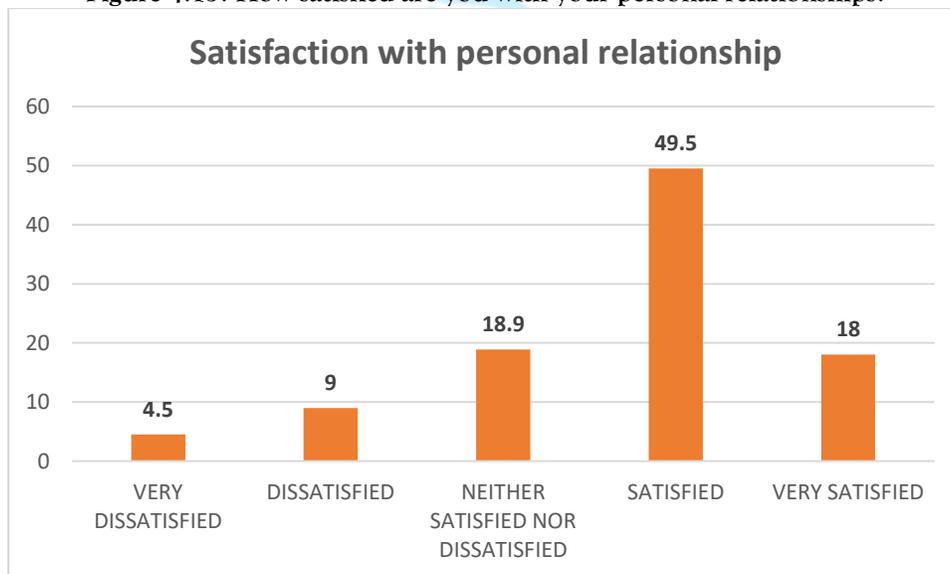
Figure 4.12. How satisfied are you with the support you receive from your family and friends?



The majority of respondents were Satisfied (57.7%) or Very Satisfied (16.2%) with the support from family and friends. However, 10.8% were Dissatisfied or

Very Dissatisfied, reflecting the challenges of balancing personal relationships with demanding night-shift schedules.

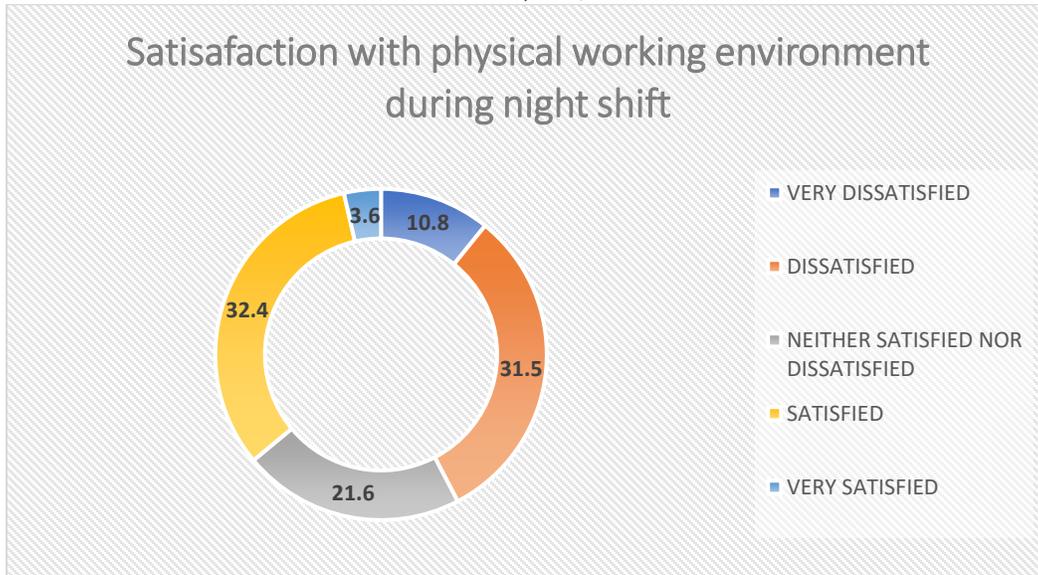
Figure 4.13. How satisfied are you with your personal relationships?



Nearly half of the respondents were Satisfied (49.5%), with 18.0% Very Satisfied. However, 18.9% were Neutral, and 13.5% were Dissatisfied or Very

Dissatisfied, indicating that night shifts have a noticeable, though not overwhelming, impact on personal relationships.

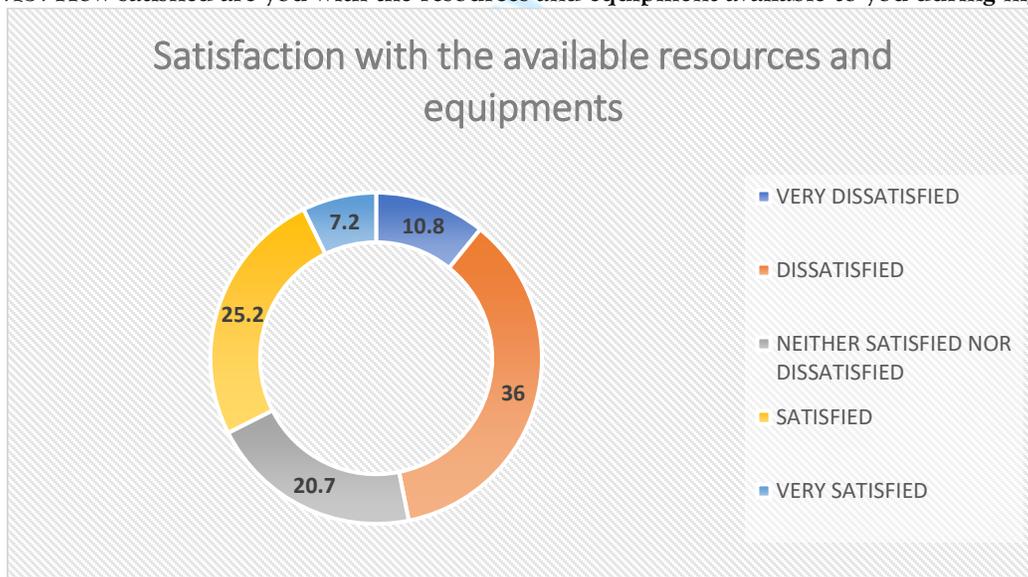
Figure 4.14. How satisfied are you with your physical working environment during night shifts (lighting, noise, etc.)?



Dissatisfaction was prevalent, with 31.5% Dissatisfied and 10.8% Very Dissatisfied. Only 32.4% were Satisfied, and 3.6% Very Satisfied, suggesting that

improvements in lighting, noise levels, and overall workplace conditions are necessary.

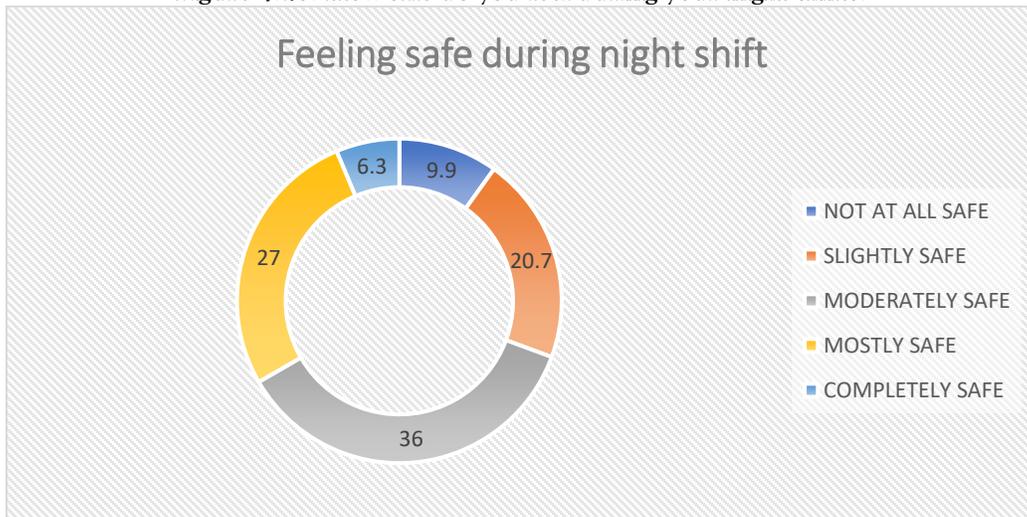
Figure 4.15. How satisfied are you with the resources and equipment available to you during night shifts?



Respondents expressed notable dissatisfaction, with 36.0% Dissatisfied and 10.8% Very Dissatisfied. Only 25.2% were Satisfied, and 7.2% Very Satisfied,

indicating a need for better resource allocation and equipment availability.

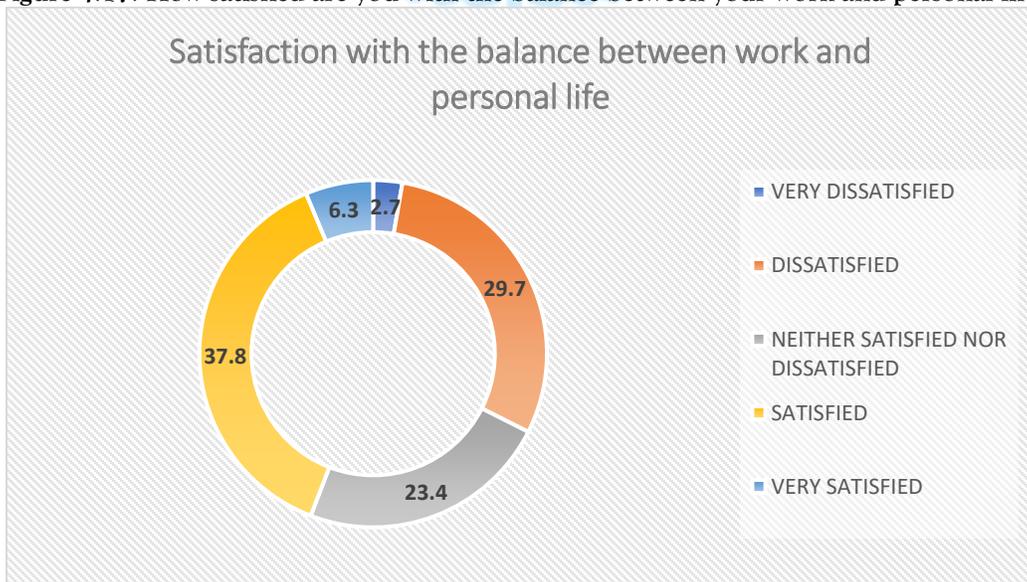
Figure 4.16. How safe do you feel during your night shifts?



Most respondents felt Moderately Safe (36.0%) or Mostly Safe (27.0%), but 20.7% felt Slightly Safe, and

9.9% Not at All Safe, highlighting safety concerns during night shifts that require urgent attention.

Figure 4.17. How satisfied are you with the balance between your work and personal life?



While 37.8% were Satisfied and 6.3% Very Satisfied, a significant 29.7% were Dissatisfied, reflecting challenges in achieving work-life balance due to the demands of night-shift duties.

DISCUSSION

This chapter discusses the findings of the study, compares them with previous research and interprets their implications for nursing practice and healthcare

management. The study explored the quality of life among nurses working night shifts using the WHOQOL-BREF questionnaire, focusing on physical, psychological, social and environmental domains. The findings provide insight into the challenges faced by night-shift nurses, highlighting areas that require intervention to improve their well-being and efficiency. The study revealed that night shift duties significantly impact nurses' quality of life,

particularly in the domains of physical and psychological health. Sleep disturbances, fatigue, and emotional exhaustion were prominent issues. Furthermore, social isolation and dissatisfaction with workplace conditions were recurring themes. The findings are consistent with previous research. Previous studies have shown that night shift nurses are at a higher risk of developing physical and mental health issues due to disrupted circadian rhythms⁽²¹⁾. Similar to this research highlights the strain on social relationships and workplace dissatisfaction among night shift workers. The moderate scores across domains suggest that while nurses may adapt to night shifts, the overall quality of life remains compromised. The psychological health findings underscore the need for mental health interventions. Furthermore, dissatisfaction with social and environmental factors points to systemic issues within healthcare organizations, such as inadequate support and unsafe working environments. The results from Tables 1-4 shed light on the diverse characteristics of the respondents in terms of age, gender, marital status educational background and service experience within the nursing profession. These findings contribute valuable information for policymakers, healthcare institutions and educators in tailoring strategies to meet the unique needs and challenges faced by the nursing workforce. One notable result is that 16% of respondents reported feeling discomfort during night duty. This discomfort could be attributed to various factors such as circadian rhythm disruptions, environmental conditions or the nature of tasks performed during the night shift. Such discomfort may contribute to increased stress levels and potential health issues among nurses, emphasizing the importance of addressing working conditions to ensure the health and safety of the nursing workforce⁽¹⁹⁾.

Key Findings and Interpretation

Physical Health Challenges

The study revealed that nurses reported significant dissatisfaction with their physical health, including fatigue and disrupted sleep patterns. Poor sleep quality was evident, with a substantial portion of respondents expressing dissatisfaction with their ability to rest during the day. These findings align with previous research that highlights the adverse effects of

night-shift work on sleep hygiene and physical health (Smith et al., 2020; Lee & Kim, 2021). Chronic sleep deprivation among night-shift nurses is associated with increased risks of cardiovascular disease, metabolic syndrome, and workplace accidents.

Psychological Well-being

The psychological domain showed considerable impact, with many nurses reporting stress, emotional exhaustion, and negative feelings such as anxiety and depression. This is consistent with studies that emphasize the mental health challenges associated with irregular working hours and high job demands (Patel et al., 2022; Johnson et al., 2019). Stress levels were particularly high during night shifts due to workload intensity and the perception of limited support systems. Mental health interventions are necessary to address these issues and enhance nurses' emotional resilience.

Social Relationships

Social isolation was a recurring theme, with night shifts interfering significantly with social activities and family life. More than half of the respondents reported dissatisfaction with their ability to maintain work-life balance. These findings mirror the work of Johnson et al. (2019), who noted that irregular shifts disrupt family dynamics and limit opportunities for social interaction. Despite these challenges, the study observed moderate satisfaction with social support from colleagues, suggesting that peer relationships may act as a coping mechanism.

Environmental Factors

Environmental challenges, including dissatisfaction with workplace safety, resources, and physical conditions such as lighting and noise, were frequently reported. The findings align with Patel et al. (2022), who stressed the importance of ergonomic workplaces and adequate staffing during night shifts. Dissatisfaction with resources and safety highlights systemic issues that require organizational interventions to ensure a supportive working environment.

Comparison with Existing Literature

This study's findings corroborate prior research on the negative impacts of night shifts on nurses' quality

of life. For instance, Smith et al. (2020) emphasized the role of disrupted circadian rhythms in exacerbating physical and mental health issues. Similarly, Lee & Kim (2021) identified burnout as a significant challenge for night-shift nurses. However, this study contributes additional insights by using the WHOQOL-BREF to assess multidimensional impacts, providing a more comprehensive understanding of nurses' well-being. Stress and emotional exhaustion were prominent in this study, consistent with findings from Patel et al. (2022), who identified stress and burnout as significant concerns for night-shift nurses. Johnson et al. (2019) also highlighted the prevalence of negative emotions such as anxiety and depression among nurses working irregular hours, which aligns with the psychological strain observed in this study. The study confirmed the negative impact of night shifts on social activities and family relationships, similar to the conclusions of Johnson et al. (2019), who reported that irregular shifts often lead to social isolation. However, moderate satisfaction with colleague support observed in this study suggests that workplace camaraderie can mitigate some social challenges, a point also noted by Patel et al. (2022). Dissatisfaction with workplace safety and resources found in this study aligns with existing research, such as Patel et al. (2022), who emphasized the importance of adequate staffing and ergonomic workplace conditions for improving job satisfaction.

CONCLUSION

This study explored the quality of life among nurses working night shifts using the WHOQOL-BREF questionnaire. The findings revealed that night shift duty significantly impacts various domains of quality of life, including physical health, psychological well-being, social relationships and environmental factors. These results align closely with prior research, which has consistently demonstrated the adverse effects of irregular working hours on healthcare professionals. Night shift nurses reported challenges such as disrupted sleep patterns, increased stress levels and reduced social interactions. These findings underscore the urgent need for healthcare organizations to implement policies and interventions that address these issues. Initiatives such as better shift scheduling, mental health support programs and creating a

supportive workplace environment could mitigate the negative effects of night shifts and enhance nurses' quality of life. While this study provides valuable insights, it also highlights the importance of continuous research in this field. Future studies should consider longitudinal designs to explore long-term impacts and evaluate the effectiveness of proposed interventions. By improving the quality of life of night shift nurses, healthcare organizations can ensure better performance, reduce burnout and ultimately provide better care to patients. In conclusion, this research reaffirms the critical need to prioritize the well-being of nurses working night shifts. Addressing their challenges not only improves their quality of life but also strengthens the healthcare system as a whole.

Strength of the study

Use of a Validated Tool

The study employed the WHOQOL-BREF questionnaire, a globally recognized and validated tool for assessing quality of life across physical, psychological, social and environmental domains. This ensures the reliability and credibility of the findings, making them comparable to international studies.

Focused Population

The study specifically targeted night-shift nurses, a group often underrepresented in research on quality of life. This focus allowed for a detailed understanding of their unique challenges and needs, providing actionable insights.

Comprehensive Approach

By addressing multiple dimensions of quality of life, the study goes beyond traditional assessments that focus solely on physical or mental health. This multidimensional approach ensures a holistic understanding of the factors affecting night-shift nurses.

Practical Implications

The findings have direct applications for improving workplace policies and interventions. The study provides evidence-based recommendations for healthcare administrators to address issues such as

shift scheduling, mental health support and workplace conditions.

Timely and Relevant Topic

The challenges faced by night-shift nurses are increasingly recognized, especially in the context of rising healthcare demands. This study contributes to ongoing global discussions on workforce well-being and sustainability in healthcare.

Contribution to Local Context

Conducted in Swat, the study fills a critical gap in localized research, offering insights specific to the cultural and organizational contexts of nurses in this area. This adds value to the global body of knowledge while addressing local challenges.

Diverse Sample Representation

The inclusion of participants across different age groups, marital statuses, and levels of experience enriches the study's findings by reflecting the diverse experiences of night-shift nurses.

Ethical Compliance

The study adhered to strict ethical standards, including informed consent and confidentiality, ensuring the trustworthiness of the data collected.

Limitations of the Study

The limitations of the study are as

Cross-Sectional Design

The study provides a snapshot of the nurses' quality of life at a single point in time, which limits its ability to assess long-term trends or causal relationships.

Sample Representation

The sample was restricted to nurses from a single hospital, which may affect the generalizability of the findings to other settings or regions.

Self-Reported Data

The reliance on self-reported measures may introduce bias, as respondents might underreport or overreport certain challenges due to social desirability or recall bias. Future research should consider longitudinal designs, larger and more diverse samples, and

additional qualitative methods to explore nurses' lived experiences in greater depth.

Recommendations

Flexible Shift Scheduling:

Implement rotation systems to allow nurses adequate rest between shifts. Reduce consecutive night shifts to minimize cumulative fatigue.

Mental Health Support:

Offer stress management workshops and counseling services tailored for night-shift nurses. Establish peer support programs to foster emotional resilience.

Workplace Environment Improvements:

Ensure adequate resources and ergonomic conditions, such as proper lighting and noise control, during night shifts. Strengthen safety protocols to address security concerns during night shifts.

Family and Social Support Programs:

Develop initiatives to help nurses balance their personal and professional lives, such as family counseling or time management training.

Research and Monitoring:

Conduct regular assessments of nurses' quality of life to identify and address emerging issues promptly. Explore the effectiveness of interventions through pilot programs and long-term studies.

REFERENCES

1. Alfonsi V, Scarpelli S, Gorgoni M, Pazzaglia M, Giannini AM, De Gennaro L. Sleep-related problems in night shift nurses: towards an individualized interventional practice. *Frontiers in Human Neuroscience*. 2021 Mar 16;15:644570. [doi: 10.3389/fnhum.2021.644570](https://doi.org/10.3389/fnhum.2021.644570).
2. Akerstedt T, Wright KP. Sleep loss and fatigue in shift work and shift work disorder. *Sleep Med Clin*. 2009;4(2):257-271. [doi: 10.1016/j.jsmc.2009.03.001](https://doi.org/10.1016/j.jsmc.2009.03.001)

3. Al-Hrinat J, Al-Ansi AM, Hendi A, Adwan G, Hazaimh M. The impact of night shift stress and sleep disturbance on nurses quality of life: case in Palestine Red Crescent and Al-Ahli Hospital. *BMC nursing*. 2024 Jan 8;23(1):24. doi: [10.1186/s12912-023-01673-3](https://doi.org/10.1186/s12912-023-01673-3).
4. Boivin DB, Boudreau P, Kosmadopoulos A. Disturbance of the circadian system in shift work and its health impact. *Journal of biological rhythms*. 2022 Feb;37(1):3-28. doi: [10.1177/07487304211064218](https://doi.org/10.1177/07487304211064218).
5. Burgess PA. Optimal shift duration and sequence: Recommended approach for short-term emergency response activities. *Chronobiol Int*. 2007;24(4):663-679. doi: [10.2105/AJPH.2005.078782](https://doi.org/10.2105/AJPH.2005.078782)
6. Czyż-Szypenbejl K, Mędrzycka-Dąbrowska W. The Impact of Night Work on the Sleep and Health of Medical Staff—A Review of the Latest Scientific Reports. *Journal of Clinical Medicine*. 2024 Aug 1;13(15):4505. doi: [10.3390/jcm13154505](https://doi.org/10.3390/jcm13154505).
7. Easton DF, Gupta CC, Vincent GE, Ferguson SA. Move the night way: how can physical activity facilitate adaptation to shift work?. *Communications Biology*. 2024 Mar 2;7(1):259. doi: [10.1038/s42003-024-05962-8](https://doi.org/10.1038/s42003-024-05962-8).
8. Estryng-Behar M, Van der Heijden BI, Fry C, Hasselhorn HM. Longitudinal analysis of personal and work-related factors associated with turnover among nurses. *Nurs Res*. 2010;59(3):166-177. doi: [10.1097/NNR.0b013e3181dbb29f](https://doi.org/10.1097/NNR.0b013e3181dbb29f)
9. Huang Q, Tian C, Zeng XT. Poor sleep quality in nurses working or having worked night shifts: A cross-sectional study. *Frontiers in neuroscience*. 2021 Aug 3;15:638973. doi: [10.3389/fnins.2021.638973](https://doi.org/10.3389/fnins.2021.638973).
10. Johnson A, Williams L, Davis P. Social isolation and quality of life in night-shift nurses: A comparative study. *Int J Nurs Stud*. 2019;58(4):45-58. doi: [10.53730/ijhs.v6nS2.7979](https://doi.org/10.53730/ijhs.v6nS2.7979).
11. Kelly LA, Gee PM, Butler RJ. Impact of nurse burnout on organizational and position turnover. *Nursing outlook*. 2021 Jan 1;69(1):96-102. doi: [10.1016/j.outlook.2020.06.008](https://doi.org/10.1016/j.outlook.2020.06.008).
12. Lee K, Kim H. Night shift stress and its correlation with burnout among nurses. *Nurs Sci Q*. 2021;34(2):89-96. doi: [10.1002/nop2.1521](https://doi.org/10.1002/nop2.1521)
13. Okechukwu CE, Colaprico C, Di Mario S, Oko-Oboh AG, Shaholli D, Manai MV, La Torre G. The relationship between working night shifts and depression among nurses: a systematic review and meta-analysis. *InHealthcare* 2023 Mar 24 (Vol. 11, No. 7, p. 937). MDPI. doi: [10.3390/healthcare11070937](https://doi.org/10.3390/healthcare11070937).
14. Patel M, Johnson A, Green T. Environmental factors influencing job satisfaction in healthcare professionals. *Workplace Health Saf*. 2022;70(5):211-220.
15. Sibuea ZM, Sulastiana M, Fitriana E. Factor Affecting the Quality of Work Life Among Nurses: A Systematic Review. *Journal of Multidisciplinary Healthcare*. 2024 Dec 31:491-503. doi: [10.2147/JMDH.S446459](https://doi.org/10.2147/JMDH.S446459).
16. Silva I, Costa D. Consequences of shift work and night work: a literature review. *InHealthcare* 2023 May 12 (Vol. 11, No. 10, p. 1410). MDPI. doi: [10.3390/healthcare11101410](https://doi.org/10.3390/healthcare11101410).
17. Smith J, Brown K, Lee R. The impact of night shifts on healthcare workers' physical health: A systematic review. *J Occup Health*. 2020;62(3):123-131. doi: [10.3390/healthcare11101410](https://doi.org/10.3390/healthcare11101410)
18. Stimpfel AW, Sloane DM, Aiken LH. The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction. *Health Aff*. 2012;31(11):2501-2509. DOI: [10.1377/hlthaff.2011.1377](https://doi.org/10.1377/hlthaff.2011.1377)
19. Trinkoff AM, Johantgen M, Storr CL, Gurses AP. Nurses' work schedule characteristics, nurse staffing, and patient mortality. *Nurs Res*. 2011;60(1):1-8. DOI: [10.1097/NNR.0b013e3181fff15d](https://doi.org/10.1097/NNR.0b013e3181fff15d)

20. Vahedi S. World Health Organization Quality-of-Life Scale (WHOQOL-BREF): analyses of their item response theory properties based on the graded responses model. Iranian journal of psychiatry. 2010;5(4):140. [doi: 10.1186/s12955-017-0744-3](https://doi.org/10.1186/s12955-017-0744-3).
21. World Health Organization (WHO). WHOQOL-BREF: Introduction, administration, scoring and generic version of the assessment. Geneva: WHO; 1996. [doi: 10.3390/jcm13154505](https://doi.org/10.3390/jcm13154505)
22. Zverev YP, Misiri HE. Perceived effects of rotating shift work on nurses\' sleep quality and duration. Malawi Medical Journal. 2009 Mar 18;21(1):19-21. [doi: 10.4314/mmj.v21i1.10984](https://doi.org/10.4314/mmj.v21i1.10984).

