

Article

# Night Shifts Impair Nurses Social Lives and Mental Health in Iraq

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**Abstract:** The prevalence of night-shift nursing has surged globally, recognizing nursing as a stressful occupation, particularly for those enduring long-hour night shifts, which results in heightened stress, excessive workloads, sleep disorders, psychological issues, and reduced social support. This study aimed to evaluate the impact of night shift work on social participation and lifestyle among nurses in Baghdad's Teaching Hospitals. A descriptive cross-sectional study was conducted from January 18, 2024, to April 18, 2024, involving 210 nurses (both male and female) from various shifts. Data were collected through interviews and a questionnaire covering demographic information and aspects of social participation and lifestyle. Results indicated the average nurse age was 32.73 years, with a nearly equal gender distribution. Educational levels varied, with the majority holding diplomas. Findings revealed that 50% of nurses experienced moderate night shift problems and 82.86% faced moderate psychological issues. The study concluded that night shift work significantly impacts nurses' psychological well-being and social participation, altering their lifestyle. These findings underscore the need for strategies to mitigate these negative effects on nurses' health and social engagement.

**Keywords:** Night Shift Work, Social participations, Lifestyle, Impact

## 1. Introduction

Shift work is typically characterized as an "organization of daily working hours in which different teams work consecutively to cover more or all of the 24-hour period [1]. According to the Sixth European Working Conditions Survey conducted in 2015 across the EU-28, 19% of workers engaged in night work, while 21% were involved in various shift patterns [2]. In the United States, data from the National Health Interview Survey (NHIS 2015) indicated that approximately 26% of workers participated in shift work, including evening, night, or rotating shifts [3]. Despite its prevalence, shift work, especially night work, has been identified in the literature as having detrimental effects on workers, impacting health, family and social life, and the organizational context [4,5]. Nurses in hospitals across the world work shift to provide patient care 24 h a day. Shift work, which for nurses often includes working overnight, disrupts natural processes.

The night shift work can have serious negative physical and psychological effects on nurses' health and work performance. It has been shown that night shift work has been associated with sleep disturbances, altered physical and mental health, complicated interpersonal relationships, and a decrease in the quality of nursing care. Numerous studies have recognized the psychological and social challenges stemming from night shift

**Citation:** Mohammed Abd Al Hussain Ajoon, Arkan Bahlol Naji. Night Shifts Impair Nurses Social Lives and Mental Health in Iraq. Central Asian Journal of Medical and Natural Science 2024, 5(3), 516-524.

Received: 25<sup>th</sup> Apr 2024

Revised: 25<sup>th</sup> May 2024

Accepted: 1<sup>th</sup> June 2024

Published: 8<sup>th</sup> June 2024



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work among nurses. However, the investigation into the risk factors associated with the psychological and social impacts of night shift work among hospital nurses is crucial yet currently insufficient. One of the major effects of night shift work on nurses is its impact on their psychological health (6–8). Several studies have shown that night shifts could predispose nurses to developing mental disorders, such as anxiety and depression [7,8]. Other poor psychological effects associated with shift work include fatigue, mood disorders, decreased vigilance and cognitive impairment [9,10].

Thus, the psychological effects of night shifts on nurses' health can compromise their safety and the quality of the care that they provide [11]. Furthermore, night shift work can have negative impact on the emotional health, family and social life of nurses - especially for female nurses with family responsibilities (pregnancy and child raising) [12]. Moreover, beyond the hospital environment, night shift workers face an elevated risk of social isolation, potentially attributed to their work schedules. Ferri et al. observed higher rates of psychological symptoms but lower rates of intimate partnerships and job satisfaction among night shift nurses compared to their day-shift counterparts in a study conducted in Northern Italy [13].

Jensen et al. similarly found that nearly a third of evening and night shift nurses in Denmark reported experiencing social isolation [14]. In Iraq a study by Qahtan that found that moderate level of nursing incivility at the workplace environment and low to moderate psychological well-being for nurses, non-significant between two variables, nursing incivility, and psychological well-being [15]. Furthermore, night shift work has a negative impact on social engagement. A study in the United Kingdom (UK) analyzing time allocated to social participation revealed lower levels among night shift workers, including nurses [16]. Aim of study. To evaluate the Impact of Night Shift Work on social participation and lifestyle among nurses in Baghdad Teaching Hospitals, Iraq

## 2. Materials and Methods

A descriptive cross-section study, which is using the evaluation approach, had been conducted in Teaching Hospitals in Baghdad City in order to measure the impact of night shift work on social participations and lifestyle among nurses. This study is started from 18th January 2024 to 18th April 2024. A Sample of (210) nurses was selected including male and female nurses who worked in morning, evening, and night shifts. A Convenience sample "non-probability" sample of nurses had been selected from teaching hospital distribution in Baghdad city. Data were collected by interview and by a questionnaire which developed for the purpose of the study. The questionnaire consisted items, includes item relative to the demographic data of the nurses who working in the morning, evening and night shift which include; age, gender, education level, work shift, the martial status, the number of experience years, and items related to social participations and lifestyle among nurses who work night shift among nurses who work night shift.

This instrument is designed through the use of levels type of Scale the rating and scoring system of the scale is consisted of correct answer out of episodes were rated as strongly agree, correct an out of episode was rated as agree, episode was rated as neutral, episode was rated as disagree and episodes were rated as Strongly Disagree. The level of each item in the scale was estimated by calculating the cut range score for mean and rated into three levels: low= 1 – 2.33, moderate= 2.34 – 3.66, and high= 3.67 – 5. The Alpha Correlation Coefficient was applied to determine the reliability of the present study instrument by application of Statistical Package for Social Science Program (IBM SPSS) version 26.0.

### 3. Results

The table indicates that the average age of nurses is (32.73±10.226) years, with 49.05% of them falling into the age group of 20 to less than 30 years. In terms of gender, (52.86%) of the nurses are male, while (47.14%) are female. The educational level varied among nurses, with the highest percentage being graduates of nursing institutes (Diploma) were (44.29%), followed by graduates of nursing high schools (30.48%), and then university degree holders with a lower percentage Bachelor's, Post graduate (23.81%), (1.42%) respectively. as shown in table (1). Similarly, in terms of years of experience, the highest percentage was among those with less than 5 years of experience at (36.7%), followed by those with more than 10 years of experience at (36.7%). Meanwhile, the percentage of those with experience ranging from 5 to 10 years was (26.6%).

Table 1. Distribution of Nurses according to their Socio-demographic Characteristics. (n= 210)

| List | Characteristics           | f                      | %   |       |
|------|---------------------------|------------------------|-----|-------|
| 1    | Age<br>M±SD= 32.73±10.226 | Less than 20 year      | 2   | 0.95  |
|      |                           | 20 – less than 30 year | 103 | 49.05 |
|      |                           | 30 – less than 40 year | 54  | 25.71 |
|      |                           | 40 – less than 50 year | 36  | 17.14 |
|      |                           | 50 ≤ year              | 15  | 7.15  |
|      |                           | Total                  | 210 | 100   |
| 2    | Gender                    | Male                   | 111 | 52.86 |
|      |                           | Female                 | 99  | 47.14 |
|      |                           | Total                  | 210 | 100   |
| 3    | Marital status            | Single                 | 83  | 39.55 |
|      |                           | Married                | 109 | 51.9  |
|      |                           | separated              | 11  | 5.2   |
|      |                           | Divorced               | 5   | 2.4   |
|      |                           | Widowed                | 2   | 0.95  |
|      | Total                     | 210                    | 100 |       |
| 4    | level education           | Nursing high school    | 64  | 30.48 |
|      |                           | Diploma                | 93  | 44.29 |
|      |                           | Bachelor's             | 50  | 23.81 |
|      |                           | Post graduate          | 3   | 1.42  |
|      |                           | Total                  | 210 | 100   |

Table 2. Continued

| List | Characteristics  | f            | %   |      |
|------|------------------|--------------|-----|------|
| 5    | Experience years | less than 5  | 77  | 36.7 |
|      |                  | 5-10 years   | 56  | 26.6 |
|      |                  | more than 10 | 77  | 36.7 |
|      |                  | Total        | 210 | 100  |

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Table 3. Evaluation of Work Shift Consequences related to Sleep Disorder among Nurses(n=210)

| Levels       | f          | %          | M    | SD    | Eva.     |
|--------------|------------|------------|------|-------|----------|
| Low          | 62         | 29.52      | 9.88 | 2.484 | Moderate |
| Moderate     | 116        | 55.24      |      |       |          |
| High         | 32         | 15.24      |      |       |          |
| <b>Total</b> | <b>210</b> | <b>100</b> |      |       |          |

f: Frequency, %: Percentage, Eva.: Evaluation, M: Mean for total score, SD: Standard Deviation for total score, Low: 4 – 9.33, Moderate: 9.34– 14.67, High: 14.68 – 20

This table reveals that 55.24% of nurses are associated with Moderate level of sleeping disorder ( $9.88 \pm 2.484$ ).

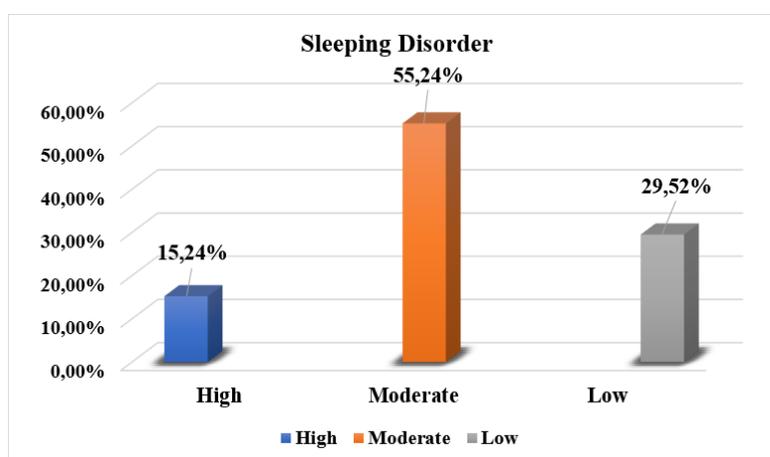


Figure 1. Levels of Work Shift Consequences related to Sleeping Disorder among Nurses (n=210)

This figure shows that 55.24% of nurses are associated with Moderate level of sleep disorder.

Table (4) which reveals that 50.00% of nurses are associated with Moderate level of night shift problems ( $13.66 \pm 3.873$ ).

Table 4. Evaluation of Work Shift Consequences related to night shift problems among nurses (n=210)

| Levels       | f          | %          | M     | SD    | Eva.     |
|--------------|------------|------------|-------|-------|----------|
| Low          | 0          | 0          | 13.66 | 3.873 | Moderate |
| Moderate     | 105        | 50.00      |       |       |          |
| High         | 105        | 50.00      |       |       |          |
| <b>Total</b> | <b>210</b> | <b>100</b> |       |       |          |

f: Frequency, %: Percentage, Eva.: Evaluation  
M: Mean for total score, SD: Standard Deviation for total score  
Low: 4 – 9.33, Moderate: 9.34– 14.67, High: 14.68 – 20

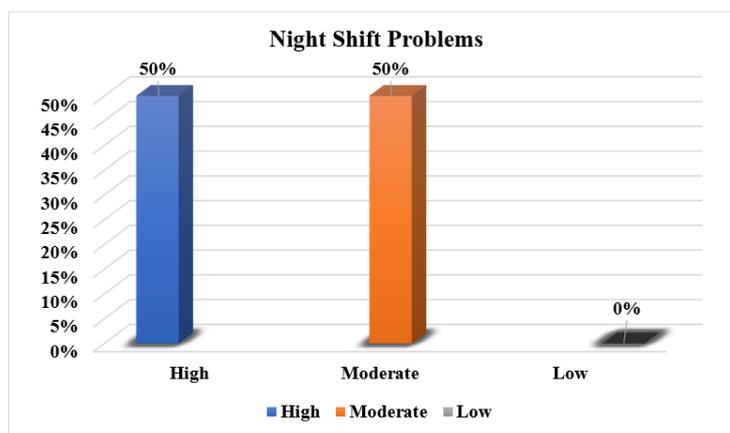


Figure 2. Levels of Work Shift Consequences related to night shift problems among Nurses (n=210)

Table (5) reveals that 82.86% of nurses are associated with Moderate level of psychological problems ( $12.46 \pm 2.471$ ).

Table 5. Evaluation of Work Shift Consequences related to psychological problems among nurses (n=210)

| Levels   | f   | %     | M     | SD    | Eva.     |
|----------|-----|-------|-------|-------|----------|
| Low      | 6   | 2.86  | 12.46 | 2.471 | Moderate |
| Moderate | 174 | 82.86 |       |       |          |
| High     | 30  | 14.28 |       |       |          |
| Total    | 210 | 100   |       |       |          |

f: Frequency, %: Percentage, Eva.: Evaluation, M: Mean for total score, SD: Standard Deviation for total score, Low: 4 – 9.33, Moderate: 9.34– 14.67, High: 14.68 – 20

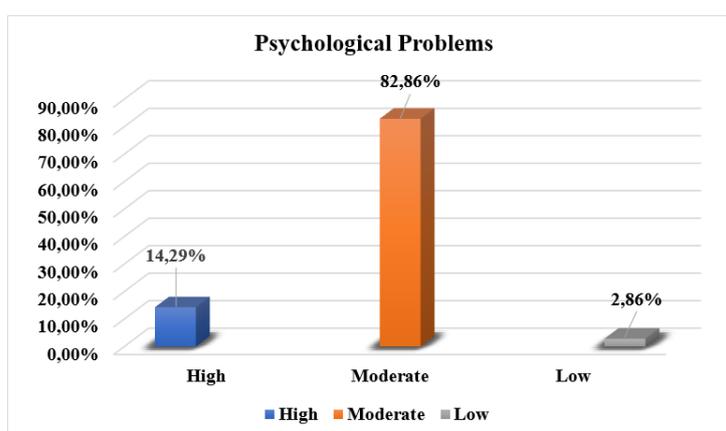


Figure 3. Levels of Work Shift Consequences related to psychological problems among Nurses (n=210)

This table reveals that 66.67% of nurses are associated with Moderate level of social participation and lifestyle impacted (17.50±5.713).

Table 6. Evaluation of Work Shift Consequences related to social participation and lifestyle among nurses (n=210)

| Levels   | f   | %     | M     | SD    | Eva.     |
|----------|-----|-------|-------|-------|----------|
| Low      | 23  | 10.95 | 17.50 | 5.713 | Moderate |
| Moderate | 140 | 66.67 |       |       |          |
| High     | 47  | 22.38 |       |       |          |
| Total    | 210 | 100   |       |       |          |

f: Frequency, %: Percentage, Eva.: Evaluation, M: Mean for total score, SD: Standard Deviation for total score, [Low: 6 – 13.99]; [Moderate: 14.00– 21.99]; [High: 22.00 – 30]

This figure (4) shows that 66.67% of nurses are associated with Moderate level of social participations and lifestyle impacted

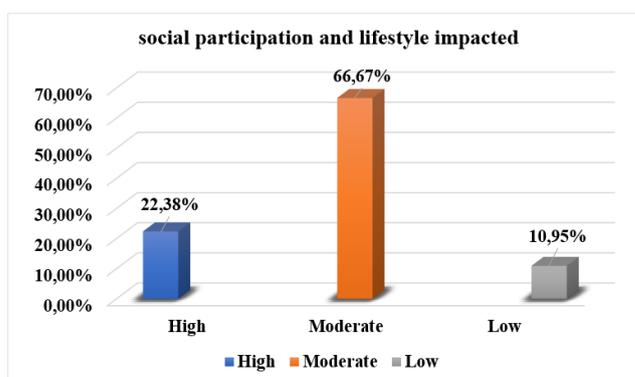


Figure 4. Levels of Work Shift Consequences related to social participation and lifestyle among Nurses (n=210)

This table presents the mean scores and standard deviation for items related to sleeping disorders; the findings indicate that all six items were moderate level.

Table 7. Mean and Standard Deviation for Items related to social participation and lifestyle among nurses (n=210)

| No | Items  | Mean | SD    | Evaluation |
|----|--|------|-------|------------|
| 1  | Did your working night shifts impacted your ability to spend time with family and friends?.            | 3.04 | 1.085 | Moderate   |
| 2  | Do you feel isolated from your social circle due to your work schedule?.                               | 2.68 | 1.382 | Moderate   |
| 3  | Did night shift work impacted your daily routines, such as meal times and exercise?.                   | 2.81 | .945  | Moderate   |
| 4  | Had you found it challenging to maintain a consistent routine due to your work schedule?.              | 3.29 | .662  | Moderate   |
| 5  | Had night shift work impacted your participation in community activities?                              | 2.61 | .845  | Moderate   |
| 6  | Did you feel you have missed out on opportunities for community involvement due to your work schedule? | 3.07 | .794  | Moderate   |

No: number, SD: standard deviation

Low= 1 – 2.33, Moderate= 2.34 – 3.66, High= 3.67 – 5

#### 4. Discussion

These results from the study conclude that night shift work indirectly affects social participation and daily lifestyle due to the direct physiological and psychological impacts it has on workers. The results are presented in Table 1, showing a mean age of  $32.73 \pm 10.226$  years. The highest proportion was observed in the age group of 20-30 years (49.05%). Additionally, the male gender comprised the highest percentage (52.86%), while the most common educational level was a Diploma (44.29%). Regarding marital status, 39.55% were single, 51.9% were married, 5.2% were separated, 2.4% were divorced, and 0.95% were widowed. Regarding work experience, both those with less than 5 years and those with more than 10 years constituted 36.7% each. Studies involving other nurse populations have reported age ranges from 35 to 57 years, with a mean age of 38.5 years and a standard deviation of 8.99.

Another study found a mean age of 35.6 years, also Mahdi and Faraj found a mean age was  $39.05 \pm 8.298$  years [17,18,19] aligning with the findings of this study. Many cross-sectional studies in Iraq indicates that most nurses' workers in hospitals are female, with a higher proportion being married. This suggests that night shift work may have a greater impact on this group compared to others, with clear effects on family relationships, social participation, and daily life within the home [20,21,22]. Nunes de Araujo et al. also found that married nurses comprised a high percentage among participants [23]. Furthermore, the lack of awareness and knowledge among nurses working in hospitals leads to a lack of understanding and inability to address family issues due to night shift work.

Among hospital nurses, most of those working in various nursing fields have either a nursing diploma or associate degree. This results in negative feedback that adversely affects social participation and indirectly impacts lifestyle [24,25]. Tables 3, 4, and 5 with its figures indicate that the level of impact of night shift work related to sleep disturbances, psychological problems, and the burden of night shift work among nurses is generally moderate. This, in itself, is the primary factor causing a negative impact on social participation and daily lifestyle among nurses working night shifts. These results align with what Vitale et al, published about how night shift work affects sleep and leads to psychological and physical problems, impacting health and even social relationships among family and friends [26].

Also, in a study by Hussein that proved that there was a job stress on nurses in their working even without work shift so what about with shift in this present study shows that the nurses have reported good level coping with stress [27], so as too in a study by Lateef and Faraj, that they found that nurses are associated with a moderate level of psychological and social problems ( $47.43 \pm 5.791$ ) [28], also the study revealed that phantom vibration and ringing syndrome are experienced moderately among nurses who are working in the morning and night shifts, evidenced by significant level among all items of the scale, there were no significant association between phantom vibration \ ringing syndrome and job-related stress among nurses [29]. Table 6, 7 and figure 4 show that moderate level of impact of night shift work on social participation and lifestyle among nurses and this result was agree with lot of several studies that have shown night shifts could predispose nurses to developing mental disorders, such as anxiety and depression.

Other poor psychological effects associated with shift work include fatigue, mood disorders, decreased vigilance and cognitive impairment. Thus, the psychological effects of night shifts on nurses' health can compromise their safety and the quality of the care that they provide Furthermore, night shift work can have negative impact on the emotional health, family and social life of nurses - especially for female nurses with family responsibilities (pregnancy and child raising). Moreover, beyond the hospital environment, night shift workers face an elevated risk of social isolation, potentially attributed to their work schedules. Ferri et al. observed higher rates of psychological symptoms but lower rates of intimate partnerships and job satisfaction among night shift nurses compared to their day-shift counterparts in a study conducted in Northern Italy.

Jensen et al. similarly found that nearly a third of evening and night shift nurses in Denmark reported experiencing social isolation. In Iraq a study by Qahtan that found that moderate level of nursing incivility at the workplace environment and low to moderate psychological well-being for nurses, non-significant between two variables, nursing incivility, and psychological well-being. Furthermore, night shift work has a negative impact on social engagement. A study in the United Kingdom (UK) analyzing time allocated to social participation revealed lower levels among night shift workers, including nurses.

## 5. Conclusion

The study concluded that a significant proportion of participants experienced psychological issues and challenges with the burden of night shift work in rotations due to the impact of night shift work. The repercussions of these effects lead, in one way or another, to the alteration of social participation and changes in lifestyle. Therefore, the researcher recommends focusing on nurses in particular and raising their awareness regarding working in shifts and adhering to regular schedules to ensure a reduction in psychological suffering and workload during shifts due to sleep disorders and health and psychological problems resulting from night shift work. The study also recommends expanding future research in relation to economic incentives and their connection to increasing the number of workers in shifts to raise their economic income without considering the potential harmful obstacles and challenges that may arise in the future.

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