

# Quality of Work Life and it's Effect on Quality of Sleep among Staff Nurses

Samah Mohamed El-Sayed\*, Shimaa Saiad Adam\*\*

\* Lecturer of Nursing Administration, \*\* Lecturer of Psychiatric Nursing

Faculty of Nursing - Ain Shams University

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**Abstract:** Improving quality of sleep and elevating perception of quality of work life can enhance staff morale level and increase productivity that positively influence health outcomes leading to organizational success. **Aim:** the current study aimed to assess quality of work life and it's effect on quality of sleep among staff nurses through; determining quality of work life perception among staff nurses, assessing quality of sleep among staff nurses, and determining the relationship between quality of work life and quality of sleep among staff nurses. **Research design:** a descriptive correlational design was used in this study. **Setting:** the study was conducted at Ain shams university hospital in critical care units. **Sample** convenient sample included 93 staff nurses who were available in predetermined setting during the time of data collection and agreed to participate in this study. **Data collection tools:** data was collected using two tools: quality of work life questionnaire and Pittsburgh sleep quality index (PSQI). **Results:** the current study revealed that more than three quarter 76% of staff nurses had high perception level of their quality of work life and overall quality of sleep to be favorable 32,8% and unfavorable in 77.2% of the studied staff nurses and there is a positive relation between different dimensions of quality of work life and sleep quality. **Conclusion:** Correlational analysis found that quality of work life was associated with quality of sleep. **Recommendation:** Manager should conduct regular social meeting with staff nurses to express their feeling openly and provide them with sufficient support, extensive training should be implemented to enhance the quality of work life and sleep for nurses, and similar research studies should be conducted in different clinical setting.

**Keywords:** Staff nurses, quality of work life, quality of sleep.

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## 1. INTRODUCTION

Healthcare organizations are predominantly concerned with the level of job satisfaction of the employees in order to enhance their performance (Reyasi, 2012). Healthcare managements commonly investigate the outcomes to resolve organizational problems (Dargahi, et al., 2012). Recently, concept of job satisfaction is interchangeable with concept of Quality of Work life (QWL) (Cho and Park, 2014).

Quality of work life is a concept which talks about the overall focus on employee as a person rather than just the work done by him/he. Quality of work life is becoming an increasingly popular concept in recent times, it basically talks about the methods in which an organization can ensure the holistic well-being of an employee instead of just focus on work-related aspects, the components of quality of work life may vary from organization to another individual to another but some of the basic components as free communications, reward system and opportunities organizations offer to their employees (Chand, 2012).

Improvement of the quality of work life for employees is crucial for nursing professions. Nursing involves close contact with humans who could influence different aspects of this profession (Vanaki and Vagharseyyedin, 2013).

Quality of work life cannot be attained and developed effectively unless assessed meticulously (Awosusi, 2012). This parameter directly affects the ability of healthcare organizations to provide appropriate medical services for different patients, according to the literature, factors such as workplace stress, physical workplace, work life imbalance, and rotational working shifts could affect tj^ quality of work life (Vanaki and Vagharseyyedin, 2013). Existing research has

generally neglected the range of stressors that are prevalent in the contemporary workplace environment, focusing mainly on the sleep consequences problem (Akerstedt, 2013).

Sleep and rest are basic human needs, it was placed on Maslow's needs as physiological needs, and provides opportunity for reenergizing and relieving human body from stressors. When the sleep-wake cycle is disturbed, the other physiological functions of the body will also undergo disturbance. Environmental factors such as occupational and physiological change could changes the quality and quantity of sleep and disrupt its natural pattern. Irregular sleeping patterns, particularly in occupations which have different working shifts are more common (Kazemi, et al., 2015).

Sleep is the complex bio-physiologic circadian vital process which directly and indirectly relates to many daily physical and mental functions of human (House and James, 2012). The work developed by the nurse demands attention, as he/she often performs activities with a high level of difficulty and responsibility. The accelerated rhythm, the excessive journeys and the working shift are factors that may develop work stress (Gabarino, et al., 2014).

The work in shifts favors not only the outbreak of sleep cycle, but also the increase of daily sleepiness and the decrease of the subjects alert states, the effects of these changes in the wake-sleep cycle may cause consequences such as a higher risk for wounds and work accidents, as well as the impairment of the quality of life for those workers (Sears, et al., 2014). Medical team members, especially nurses engaged in intensive care units (ICUs), have high workload and insufficient resting time, rotational working shifts have been shown to have adverse effects on the normal life and sleep patterns of nurses, consequently, they may experience tremendous stress, which will intimately reduce the quality of sleep and quality of work life in these healthcare professionals (Almojali, et al., 2017).

Sleep disturbance are considered as a common problem in many professions, this disturbance could negatively affect nursing performance and increase treatment costs, while decreasing the quality of life, health care, productivity and job satisfaction (Moradi, 2013). A good sleep quality is essential to enable any person to comprehend and analyze huge amounts of information. Inadequate sleep duration as well as bad sleep quality have negatively affects the attention and concentration of the working nurses leading to tiredness or inhibition in problem solving skills and inability to cope with daily life activities (Dement and Mitler, 2013).

Several studies indicated that 50% of nurses suffer from severe sleep disturbance, which lead to significant risk to the health of these individuals, as well as the quality of care for patients (Daley, et al., 2014).

### Significance of the study

Each person has different needs when it comes to their careers, the quality level of their work life is determined by whether those needs are being met or not. Requirement for having high quality vary from person to person regardless of their standards, those with a high quality work life generally make enough to live comfortably and find their work to be interesting (Odoyo, 2011).

So this study aimed to determine quality of work life and it's effect on quality of sleep among staff nurses working at critical care units in Ain Shams University hospital.

### Aim of the study

Determining quality of work life and it's effect on quality of sleep among staff nurses.

### Research question

Is quality of work life has effect on quality of sleep among staff nurses?

## 2. SUBJECT AND METHODS

### Design:

A descriptive correlational design was used to achieve the aim of the study.

### Setting:

The study was conducted at all critical care units in Ain Shams university hospital. The hospital includes five critical care units which are: emergency intensive care unit, catheterization care unit, tropical care unit, neuro medicine intensive care unit and cardiac care unit.

**Subjects:**

Subjects of the current study included all staff nurses working at critical care units in Ain Shams university hospital affiliated to Ain shams university hospitals. Total number of staff nurses was 93 nurses who work in three shifts.

**Tools of Data Collection:**

Two data collection tools were used to collect data namely, quality work life questionnaire and Pittsburgh Sleep Quality Index (PSQI).

**1-Quality work life questionnaire**

This questionnaire was used to assess quality of work life among staff nurses adopted from (Timossi, et al., 2008) and contains 35 items grouped under eight main dimensions namely, 1) adequate and fair compensation, 2) safe and healthy environment, 3) growth and security, 4) development of human capabilities, 5) social integration. 6) Constitutionalism, 7) total life span and 8) social relevance.

**Scoring System:**

The instrument used a five point Likert scale, ranging from strongly agree to strongly disagree and scored from 5 to 1 respectively. Scores of the statements of each component were summed-up, converted into percent score and the total divided by the number of the items, giving a mean score for each component. The QWL was considered high if the percent score was 60% or more and low if less than 60%.

**2- The Pittsburgh sleep quality index (PSQI)**

This tool was used to assess sleep quality over a time interval of one month This tool adopted from (Buysse, et al., 1989), a self-rated questionnaire. Seven properties of sleep were evaluated by this tool ; 1) Sleep quality of the individual, 2) Time it takes for an individual to sleep, 3) Duration of sleep, 4) Sleep efficiency, 5) Bed time problems, 6) Use of sleeping medication and 7) Impairment in daily functioning.

**Scoring system**

The scores for each question ranged from zero to three. Zero indicating the highest sleep quality and three indicating the lowest one. The seven component scores added to yield a global PSQI score in the range of zero to 21; the higher the score is, the worse the sleep quality. A global score equal or greater than 5 indicates poor sleep quality in the last month.

**Procedures**

An official permission from each of the hospital administrative authority was obtained. Data was collected in the period from February 2017 to July 2017.

**A pilot study**

A pilot study to confirm a conceptual match was carried out on 11 staff nurses to examine sequence of items, feasibility and applicability of tools, clarity of the language and for estimating the time needed to fill them. These 11 respondents were selected randomly from the study setting and were included the main study sample. The time taken to fill in the questionnaire ranged from 35 to 45 minutes

In this phase the researchers reviewed the current available related literature and develop the study tools for data collection Both QWL & PSQI questionnaires were translated into Arabic and back translated to ensure proper wording and validity. The tool were judged by five experts to test the feasibility and applicability. No clarifications were added to any item. Then, the questionnaire was distributed; purpose of the study was explained to staff nurses in their work settings during their shifts.

Responses to questionnaire were collected within three weeks after several hospital visits by investigators.

**Ethical considerations**

Oral informed consents were obtained from the participants, they were informed about all the rights to refuse or withdraw from the study with no consequences. They were reassured about anonymity and confidentiality of the information collected and ensured that data will be used only for the purpose of scientific research.

### Statistical analysis

Data were analyzed using Statistical Package for Social Science (SPSS) version 16.0 for windows. Subjects, for whom 10% or more data were missing, were excluded from the analysis. Analyzing and scoring sheets of the AHRQ were followed in tabulation and calculation. Number and percentage distribution were used to determine the highest responses and chi-square test was used to identify significant differences among nurses perception. The confidence level chosen for the study was 95%. The differences were considered significant if the p-value was less than 0.05 at the appropriate degrees of freedom. Pearson correlation analysis was used for assessment of inter-relationship among quantitative variables and scores.

### 3. RESULTS

**Table (1):** Reveals that 49% of studied subjects are in the age group more than 30 years with Mean age  $32.28 \pm 3.52$ , the majority of the studied group are female (87%). About qualification of studied staff, less than half (46.2%) of them have bachelor. More than half of the studied subjects married (62.3%), while more than half of them (57.66%) have sleep hours range 4-6 hours, the majority of staff nurses (83.8%) are from urban areas with insufficient monthly income.

**Table (2):** Reveals that the highest quality of work life dimensions mean score is adequate and fair compensation dimension. While, the least mean score is related to total life span dimension.

**Figure (1):** Demonstrates that more than three quarters (76%) of the staff nurses have high perception level of their quality of work life.

**Table (3):** Indicates that the overall quality of sleep is favorable in (32.8%) and unfavorable in (77.2%) of the studied staff nurses.

**Table (4):** Shows that the Regression analysis of the relationship between different dimensions of quality of work life and sleep quality, indicates a statistically significant correlation between adequate and fair compensation, safe and healthy environment and growth and security with the quality of sleep among the studied staff nurses with (p value  $< 0.01$ ).

**Table (1) Description of demographic characteristics of the studied staff nurses (n=93)**

Characteristics	No	%
<b>Age (years)</b>		
<30	46	49
30-40	28	30
>40	19	21
Mean $\pm$ SD	$32.28 \pm 3.52$	
Range	28-46	
<b>Sleep hours</b>		
4-6	57.66	62.1
7-10	23.25	25.4
Other	12.09	12.5
Mean $\pm$ SD	$7.47 \pm 1.45$	
Range	4-12	
<b>Monthly income</b>		
Enough	17	18
Not enough	76	82
<b>Level of education</b>		
Post graduate	7	7.5
Bachelor degree	43	46.2
Diploma	33	35.4

<b>Technical Institute</b>	10	10.7
<b>Marital status:</b>		
<b>Single</b>	22	23.6
<b>Married</b>	58	62.3
<b>Divorced</b>	3	3.2
<b>Widow</b>	10	10.7
<b>Gender:</b>		
<b>Male</b>	12	12.9
<b>Female</b>	81	87.09
<b>Living place</b>		
<b>Urban</b>	78	83.8
<b>Rural</b>	15	16.2

Table (2): Mean score of quality of work life dimensions amongstudied staff nurses (n=93)

Quality of work life dimensions	Mean ± SD
1. Adequate and fair compensation	76.4±12.9
2. Safe and healthy environment	71.9±15.5
3. Growth and security	70.2 ±15.9
4. Development of human capabilities	68.7 ±16.7
5 Social integration	68.3 ±17.5
6. Constitutionalism	70.2 ±15.9
7. Total life span	67.0 ±17.1
8. Social relevance	69.4 ±16.3

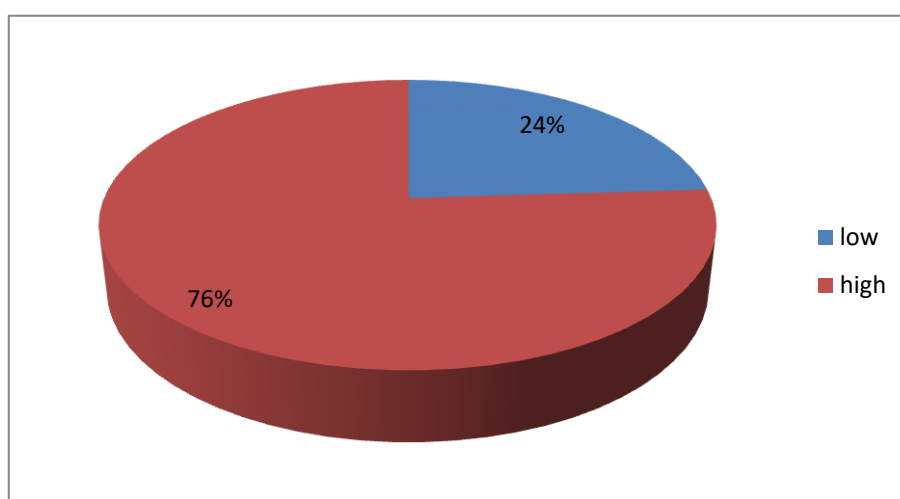


Figure: (1) total nurses<sup>1</sup> staff perception level of Quality of work life (n=93)

Table (3): Frequency of overall sleep quality among the studied staff nurses (n=93)

Overall Sleep quality	Frequency (No)	%
<b>Favorable</b>	35	32.8
<b>Unfavorable (poor)</b>	58	77.2

**Table (4): The relation between quality of work life dimensions and overall sleep quality based on best fitting multiple linear regression model (n=93)**

Quality of work life dimensions	Overall sleep quality	
	t-test	P-value
Adequate and fair compensation	15.082	<0.001*
Safe and healthy environment	17.016	<0.001*
Growth and security	2671	0.009*
Development of human capabilities	0.12	0.73
Social integration	0.01	0.60
Constitutionalism	0.03	0.94
Total life span	1.01	0.32
Social relevance	1.23	0.64

(\*) Statistically significant at  $p < 0.01$

#### 4. DISCUSSION

The aim of the current study was to assess quality of work life and its effect on quality of sleep among staff nurses. The current study showed that more than three quarters of the staff nurses had high perception related to quality of work life. This result was agreement with (Ahmed, 2017) who found that overall staff nurses had high perception related to quality of work life.

The current work indicated that sleep quality overall was unfavorable in more than three quarters the studied staff nurses. This result was supported by (Charati et al., 2016) who found that sleep quality was unfavorable in the majority of staff nurses. In the same line (Palhares, et al., 2014) found that the frequency of impaired sleep quality was high among staff nurses. Also the result of the current study agreed with Nasiri and Bogheiri, (2012) who found that most of the studied nurses suffered from variable degrees of sleep disorders. And the (Zhang, et al., 2016) who found that more than half of nurses reported insufficient sleep.

The result the current wasn't agreement with (Garica et al., 2018) who found that half of the nurses reported excessive sleepiness.

Regarding the relation between quality of work life dimensions and overall sleep quality the current study show that there was statistically a significant correlation between adequate and fair compensation, safe and healthy environment and growth and security with the quality of sleep among the studied staff nurses with p value < 0.0. The finding of the study of (Salo et al., 2014) was supported by who reported that improving quality of work life could improve sleep quality, of getting adequate sleep could benefit employers by increasing these productivity and morale.

Also, (James and Gang, 2014) clarified that adequate quality work was vital for personal income and for fulling human needs such as shaping personal identity, securing social status and giving structure and purpose to daily life. Various studies have indicated that half of the staff nurses suffer from severe sleep disturbance, which pose significant risk to the health of these individuals, as well as the quality of care for patients (Rahimpoor, et al., 2013).

Nurses are the largest group of employees in health care organizations and improving their quality has become a challenges issue in health care organizations. Nurses as the largest group of health care providers should enjoy satisfactory quality of working life to be able to provide quality of care to their patients

#### 5. CONCLUSION AND RECOMMENDATION:

The current study concluded that there was statistically significant correlation between quality of work life and quality of sleep as well as majority of staff nurses had high perception level of that quality of work life and majority of staff nurses had unfavorable sleep quality. These results recommended that manager should conduct regular social meeting with staff

nurses to express their feelings openly and providing them support. Extensive training should be implemented to enhance the quality of work life and sleep for nurses, further research are required related to this issue in different clinical setting managers and administrators should consider the finding as important as sleepiness is associated with errors that could affect patient safety.

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