1 Adult Nursing Department, College of Nursing, University of Baghdad, Baghdad Governorate, Iraq.
2 Adult Health Nursing Department, College of Nursing, University of Baghdad, Baghdad, Iraq.

Corresponding author email address:
zainab.jassem2302m@conursing.uobaghdad.edu.iq

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Determining Quality of Nursing Work-Life and Caring Behavior among Critical Care Nurses

Zainab Jasem. Jabar[1]*, Serwan Jafar. Bakey[2]

ABSTRACT

Objective: The study aims to determine quality of nursing work life and caring behavior among critical care nurse.

Methods and Materials: The study design was descriptive cross-sectional design. The study was conducted on (n=143) nurse work in cardiac care unit, intensive care unit, and respiratory care unit at four hospitals in Iraq. The tools were used to collect data, socio-demographic characteristic, brooks Quality of Nursing Work Life Survey (QNWL), and caring behavior inventory scale (16 item).

Findings: The current study showed 78.3% of nurses reflected that they work with moderate quality of work life, and 81.2 % of nurses have higher level of caring behavior.

Conclusion: Quality of nursing work life has a significant impact on caring behavior, the quality of nursing work life at moderate level and the proportion of nurses who had a high of caring behavior was higher.

Keywords: critical care nurse, quality of nurse work life, caring behaviors.

Introduction

Critical care nurses constitute the principal healthcare responsible for delivering effective care to patients continuously throughout the 24-hour a day (Yousif & Sadeq, 2024). Nurse play preventive, curative, and rehabilitative function necessary for family and community (Al-Fayyadh, 2018). Caring embodies the essence of the professional identity inherent in the nursing discipline (Al-Jubouri et al., 2021). Nursing care impact on the health outcomes of patients (Hamid & Bakey, 2024). Improvements in the performance of nursing professionals potentially augment increasing quality of care and patient safety (Jaleel et al., 2024).

The effectiveness of care administered by a nursing professional is considerably shaped by quality of nursing work life (QNWL), which is a pivotal factor in the realm of healthcare services (Castro-Palaganas, 2020). Quality of nursing work life (QNWL) represents a conceptual framework that explains nurse evaluation of satisfaction the requirement as mediated by health professional experiences within a healthcare institution (Viselita et al., 2019). The level of Nursing Work at Life evolved into managerial approach which is consistently aimed at

improving the level of care provider experiences (Maf'ula et al., 2020). QNWL has emerged as a significant determinant in shaping the level of nursing services. Concurrently, the caring behavior exhibited by nursing professionals may serve as an indicator of the overall quality of their professional output (Lu et al., 2020).

Caring behavior is the primary metric for assessing the level of healthcare services (Ellina et al., 2021). The incorporation of caring as a criterion for the appraisal of healthcare services represents a prevailing trend in contemporary society (Hogg et al., 2018). However, caring constitutes the fundamental nature of nursing, representing the foundational disciplinary core of the profession, and is most effectively articulated and enacted within interpersonal interactions (Watson, 2008). Caring behaviors constitute actions that are pertinent to the welfare of a patient, encompassing attributes such as empathy, providing solace, active listening, transparency, and an absence of judgmental attitudes (Ashagere, 2023).

Worldwide, nursing accounting for 90% of healthcare services, and Quality Nursing Care (QNC) is a vital aspect of quality healthcare (Ni et al., 2023). Globally a significant proportion of nursing professionals report experiencing low to moderate levels of Quality of Work Life (Kelbiso et al., 2017). Previous study in Harari region, eastern Ethiopia only 51.67% of nurses had good caring behavior, the degree of caring behavior inadequate (Kibret et al., 2022). Further research is essential to clarify and improve the Quality of Nurse Work Life (QNWL) mentioned by Mohamad Al_Tannir (Kaddourah et al., 2018). Previous study by Norkiah Arsat recommend for future research to examine the relationships between nurse staffing and caring behavior, such as those employed in hospital settings and those engaged in healthcare services, given that different work environments in different setting (Arsat et al., 2022).

Because the close relationship between QNWL and caring behavior make us interest in undertaking a comprehensive study regarding QNWL and caring behavior and explore relationship between QNWL and caring behavior as well as in Iraq no study determine quality of nursing work life and caring behavior in critical setting. In addition, no study were assess quality of nursing work life and caring behavior. Based on these gapes, the study aims to determining quality of nursing work life and caring behavior among critical care nurses.

Methods and Materials

Research Design

A Quantitative, cross sectional study was conducted to determine quality of nursing work life and caring behavior among critical care nurses. This study was carried out in four hospitals in Diyala and Baghdad from Nov 2024 to Jan 2025. The researchers get approval from participants was taken oral or written agreement from participant to vole- entering in this study. Also they were informed about their right to withdraw from the study at any particular point in time, finally, all information's was keep anonymous like name, job, and living. This information was used only for research and will be kept confidential. Informed consent was administered to all nurse before they participate in the study.

Setting of the study

The study was conducted on 435 nurses at critical setting (intensive care unit (ICU), cardiac care unit (CCU), respiratory care unit (RCU), hemodialysis center) In Baquba Teaching Hospitals in Dyala Directorate, And Baghdad Teaching Hospital, Private Nursing Home, and Ghazi Al-Hariri Hospital for specialized surgeries in Baghdad Directorate in Iraq. Total nurse in (ICU, CCU, RCU, hemodialysis) 435 nurse base on sample size calculator at confident level 85% and margin error 5% and population proportion 50% the minimum sample size 143 critical care nurse. The sampling method used in the study was nonprobability convenience sampling to select nurse work in critical care setting. Inclusion criteria including: Professional nurse at least has diploma certification, volunteering to participate in the study, woke in critical area at least six months. The study exclusion criteria include: nurse if they refused participation, work in critical setting less than six months, He holds a preparatory degree in nursing.

Instrument

Part 1: Socio-Demographic data: Include participants' age, sex, level of education, marital status, year of work in critical setting, unit of work shift type.

Part 2: Quality of Nursing Work Life Survey (QNWL)

In 2001, Beth A. Brooks conceptualized the Quality of Nursing Work Life Survey (QNWL) in the United States

to examine the work life quality of nursing practitioners. The instrument comprises 42 items distributed across four distinct subscales: Home/Work Life, Work Organization/Design, Work Conditions/Contention, and Work World (Sirin & Sokmen, 2015). Each item within the original scale is evaluated using a 6-point Likert scale, which ranges from "completely disagree (1 point)" to "completely agree (6 points). The lowest possible total score is 42, while the highest achievable score is 252. Elevated total scores signify a more favorable quality of work life (Sirin & Sokmen, 2015). Notably, the 3th, 11th, 16th, and 20th items are reverse-coded within the scale. QNWL has four-dimension work life-home life, work design, work context, and work world. The initial dimension is referred to as the work-life-home life interface, which encapsulates the relationship between the professional responsibilities of nurses and their domestic obligations. The work design dimension represents the nursing work and actual activity of the nurses. Which including factor limited of work environment such as workload, staffing, and autonomy (Brooks & Anderson, 2005). Work context dimension represents as the practice settings that influence of the work environment on both nurse and patient systems. It encompasses interpersonal relationships with supervisory personnel, colleagues, members of interdisciplinary health teams, the availability of resources necessary for job execution, and the institution's commitment to fostering lifelong learning. The fourth dimension is the work world, refer to the effect of extensive societal influences and transformations on the practice of nursing (Brooks & Anderson, 2005).

The back-to-back translation methodology was employed to evaluate the language validity of the QNWL. The scale was a translation from English to Arabic by a cohort of linguistic specialists. The Arabic items that were translated were subsequently scrutinized by an expert, followed by a back-translation of the items conducted by an additional linguistic specialist. The initial Arabic translation was later subjected to back-translation into English by two independent bilingual translators of Arabic origin, it was then presented to a committee of experts within the college of nursing /university of Baghdad. Content validity of the questionnaire determines by used content validity index (CVI) approach. Following the content validity analysis,

the result showed that the questioner of the scale clear, suitable, adequate, relevant, and valid with CVI was 0.95. The Reliability of the quality of nursing work life scale is determining by using test-retest approach to evaluate 14 nurse in critical care unit. The period was 4 weeks to determine the internal consistency of instrument using Alpha Cronbach's test (Alpha Correlation Coefficient).

Part 3: caring behavior inventory scale (CBI-16 version)

The CBI-16 version of the CBI by Wolf is adapted in this study (Wolf, Dillon, Townsend & Glasofer, 2017). CBI is founded upon Watson's theoretical framework of caring and was initially designed to evaluate the perceptions held by patients regarding the caring actions of nursing professionals (Wolf, 1994). The CBI-16 utilizes a six-point Likert scale for responses, ranging from 1 (indicating never) to 6 (indicating always). Scores are derived by aggregating the individual scores for each item within the scale, resulting in a possible score range of 16 to 96, where elevated scores signify superior caring behaviors. The conducted factor analysis indicated that the CBI-16 encompasses a singular factor, with an explained variance of 58.0%. The calculated Cronbach's alpha for the CBI-16 version was determined to be 0.95, suggesting an exemplary level of internal consistency (Wolf et al., 2017). Then the CBI-16 was translated to Arabic language following the forward–backward translation method. Two Saudi assistant professors in nursing separately translated the tool to Arabic language and Cronbach's alpha of the tool was 0.961 based on the data from the 160 sample (Alquwez et al., 2021).

Data Analysis

The researchers used Statistical Package for the Social Sciences (SPSS) version 23.0 for all analyses. Descriptive statistics were used to describe participant characteristics and assess the distribution of all variables, and inferential statistics were used including Wilcoxon Ranked test and Spearman's rho.

Findings and Results

Results in Table 1 showed that mean age of the sample was 28.4 years old with SD = 5.8 years. More than half of the study sample were males whom accounted for (55.1) percent of the total sample. In addition, 52.2 percent of the sample were single, while 47.1 were married. The

greatest percent of the study sample (72.5) have bachelors' degree in nursing. Moreover, the mean years of work was 3.4 years in critical care units, and most of

nurses are working in intensive care unit whom accounted for 41.3 percent. In addition, 64.5 percent of the sample were working in the morning shift.

Table 1

The Distribution of the Study Sample according to the Demographical Data.

Variable	Groups	Results	
		F.	%
Age	Mean ± SD	28.4	5.8
Sex	Male	76	55.1
	Female	62	44.9
Marital status	Single	72	52.2
	Married	65	47.1
	Divorced	1	.7
Educational level	Diploma degree in Nursing	35	25.4
	Bachelor's degree in Nursing	100	72.5
	Higher Degree In Nursing	3	2.
Years of work in Critical Care Unit	Minimum + Maximum	1	25
	Mean ± SD	3.4	4
Unit of Work	Cardiac Care Unit	45	32.6
	Intensive Care Unit	57	41.3
	Respiratory Care Unit	7	5.1
	Dialysis Center	29	21
Type of work shift	Morning shift	89	64.5
	Evening Shift	49	35.5

F.= frequency, % = percentage

Table 2 presented that 78.3 percent of nurses reflected that they work with moderate quality of work life, while 20.3 reflected they work with high quality of

work life, and only 1.4 percent of nurses reflected they work with low quality of work.

Table 2

The Distribution of the sample according to their Quality of Work Life total score

Level of responses	Frequency	Percent
Low QNWL (42-112)	2	1.4
Moderate QNWL (113 – 182)	108	78.3
High QNWL (183 – 252)	28	20.3
Total	138	100.0

Table 3 presented that 81.2 percent of nurses have higher level of caring behavior, while only .7 percent

reflected has a low level of caring behavior in critical care units.

Table 3

The Distribution of the sample according to their Caring Behavior total score

Level of responses	Frequency	Percent
Low level of caring behavior (16 - 42.6)	1	.7

Moderate level of caring behavior (43 - 69.6)	25	18.1
High level of caring behavior (70 – 96)	112	81.2
Total	138	100.0

Table 4 presented a significant difference between quality of nursing work life and caring behavior at p value = .000.

Table 4

The Distribution and Differences of the sample according to their Quality of Work Life with their Caring Behavior total score (Using Wilcoxon Ranked test)

			Caring Behavior			Total
			Low	Moderate	High	
Quality of Work Life	Low	Count	1	0	1	2
		% of Total	0.7%	0.0%	0.7%	1.4%
	Moderate	Count	0	22	86	108
		% of Total	0.0%	15.9%	62.3%	78.3%
	High	Count	0	3	25	28
		% of Total	0.0%	2.2%	18.1%	20.3%
Total		Count	1	25	112	138
		% of Total	0.7%	18.1%	81.2%	100.0%
		N	Mean Rank		Sum of Ranks	
Caring Behavior and Quality of Nursing Work Life	Negative Ranks	3[a]	45.00		135.00	
	Positive Ranks	87[b]	45.52		3960.00	
	Ties	48[c]				
	Total	138				
Z		-8.814[b]				
Asymp. Sig. (2-tailed)		.000				

a. Caring Behavior < Quality of Nursing Work Life

b. Caring Behavior > Quality of Nursing Work Life

c. raingscore2 = Quality of Nursing Work Life

Discussion and Conclusion

Result of the study in table (1) presented that the mean age of study sample was 28.4 years old, with standard deviation (SD) of 5.8 years. This result was supported with previous finding of Khaled Suleiman in 2019 in Amman, Jordan to determine the quality of nursing work life and related factors. the author found that the mean age of nurses was 30.53 years (Suleiman et al., 2019). Another study conducted by Ndlovu in 2022 at the public hospitals in Gauteng in South Africa, who conducted research on the quality of life of nurses and its Influence of demographic characteristics, the author found that the mean age of study sample was within age group (45) years old. Abd Ali conducted research about physical work environment and influence of nurse jo environment, Abd-Ali found majority of study samples were 21-30 years (Abd Ali & Qassem, 2023).

Regarding the sex of study sample was more than half of the study sample were males, accounted for 55.1% of the total sample. In contrast, a study accomplished by

Mestiana in 2020 at Dr. Kumpulan Pane hospital Tebing Tinggi, North Sumatera, which compared the demographic characteristics of nurses with caring behavior, the author found that the majority of study sample was female (Pranata et al., 2020). another study by Suratno in 2018 at Makassar, Indonesian, which examined the relationship between transformational leadership and quality of nursing work life, Suratno showed the majority of respondents were female (Suratno, 2018). Kamil and Hattab conducted research in 2023 in Baghdad, Iraq about nursing knowledge and performance, the author fond higher percentage of critical nurse was male (Kamil & Hattab, 2023). Based on the aforementioned evidence, due to the pressure of work in critical care unit and heavy work, health institutions prefer male more the female.

The marital status of the study sample was 52.2% single, while 47.1% were married. Javad in 2021 conducted a quantitive study to explain nurses work quality of life and its influencing demographic factors at a public hospital in Imam Reza Hospital and Kermanshah

University of Medical Sciences in western Iran, which found that most of the study sample was single (Lebni et al, 2021). However, a study contrast to this study conduct be Ali-Raza in 2022 in Tabriz, Iran, to measure nurses job stress and its impact on quality of life and caring behaviors found that the majority of sample was married (Babapour et al., 2022). in additionally, Javanmardnejad 2021 conducted research in Iran to determining Happiness, quality of working life and job satisfaction among nurses, which found that the study sample was predominantly married (Javanmardnejad et al., 2021). Abbas state 70% of study sample was single (Abbas & Mohammed, 2019).

Regarding education level, the greatest percent of the study sample (72.5%) had a bachelors' degree in nursing. This finding consist with research by Salahat on measuring the quality of work life in Jordanian hospitals, Jordan which found that the education level of participants was predominantly Bachelor's degrees (Salahat & Al-Hamdan, 2022). In contrast, a study published by Khider , which measured challenges toward nurse, the authors found that most participants had diploma (Al-Jubouri et al., 2021). Another study conducted by Raziyeh Ghafouri in Iran on the Translation and validation of caring behaviors inventory found that most nurses in the study diploma (Ghafouri et al., 2021). Additionally, a study in referral hospitals in the mhara region in Ethiopia by Ferede on Nurses perceptions of caring behaviors showed that 91.9% of the participant held a bachelor's degree in nursing (Ferede et al., 2024). Based on the aforementioned results, the workers in critical care unit, which include the intensive care unit and cardiac care unit, at least possess a bachelor's degree in nursing.

In relation to the year of experience in the critical care unit of the study sample, the result shown years of work experience was 3.4 years. In agree with the results of study in three hospitals in Baghdad, Iraq, found that 27.3% of the participant had 1-5 years of experience in critical care unit (Hattab et al., 2021). Similar finding has been reported in previous study by Jamshidian in 2019 at the hospital of Isfahan University of Medical Sciences in Iran, which determine the effect of an ethical empowerment program on critical care nurses ethical decision-making, stated that the mean work experience of the study sample was 5.49 years (Jamshidian et al., 2019). Another study conducted by Alreshidi N in 2021 in Saudi Arabia to measure the quality of work life in acute care settings found that the mean of work experience was 177.1 years (Alreshidi & Alsharari, 2021). Based on the aforementioned discussion, more year employment in critical care lead to more experience, knowledge and practice.

Regarding the unit of work of study sample, most nurses worked in the intensive care unit, accounted for 41.3% of the sample. In support of this, Nashi M Alreshidi found that 23.6% of nurses in acute care unit worked in the intensive care unit, which was higher than in other acute unit (Alreshidi & Alsharari, 2021). In contrast, a study conducted in Imam Khomeini hospital in Khalkhal, Iran, by Milad Jafari, which compared nurses and patients' views about caring behaviors found 30% of nurse worked in the emergency department (Jafari et al., 2020). Based on the aforementioned discussion research nurses prefer to work in intensive care unit to gain knowledge and skills about different critical condition

Additionally, the results demonstrated most of the sample worked the morning shift, with 64.5 % of the sample working during this time. Similar study conduct by Ahmed demonstrate59.4% of nurse work morning shaft (Ahmed & Hassan, 2022). In contrast, a study by Ali Reza found that the most of sample worked rotating shaft, with 87.8% of the participant working this schedule (Babapour et al., 2022). Another study found that 76.7% of study sample worked rotating shifts (Javanmardnejad et al, 2021). Molazem conducted research at Shiraz University of Medical Sciences, Shiraz, Iran, to evaluated moral distress and relationship with the quality of work life, found that 88.9% of the nurses worked rotational shifts (Molazem et al., 2022).

Results of study in table (2) presented that 78.3% of nurses reflected that they work with moderate quality of work life, while 20.3% reflected they work with high quality of work life, and only 1.4% percent of nurses reflected they work with low quality of work. This results supported with previous research published by of Hong Hu in Jinzhou, China to measured influencing factors of the quality of work life of nurses in Intensive Care Unit. The author found that the total average score of the quality of work life of ICU nurses was 3. which indicted the quality of nurse work life at a moderate level (Hu et al., 2020). Additionally, Lebni found that 57.50% of the nursing indicated high quality of work-life, 36.50% exhibited a moderate level, a 5.20% reported low level

quality of work-life (Lebni et al, 2021).another study conducted by Lorber in 2023 at Slovenian acute care hospitals in Slovenia to investigated the work-life quality and related workplace factors of nursing, the author found that most nurses had a quality work-life at a moderate level, with 76% of participant reporting satisfied with their work, and 89% assessed their well-being at the workplace as positive (Lorber & Dobnik, 2023). Based on the aforementioned evidence, nursing shortage, a heavy workload, low monthly income, and lack of service for nurses, can be considered as factor affecting on caring behavior and quality of nursing work life.

In related to Table (3), The Distribution of the study sample according to their Caring Behavior the result demonstrated that 81.2 % of nurses have higher level of caring behavior, while only 0.7% reflected has a low level of caring behavior in critical care units. similar study conducted by Adugna in 2019 at Jimma University specialized hospital, Oromia, Ethiopia to assessed caring behavior and associated factors among nurses. The author found that the level of agreement with caring behavior was (80.3%) high, (36.1%) medium, and (32%) low (20). Lukmanulhakim in 2019 conduct study to determining caring efficacy and nurse caring behavior at Dr. Dradjat Prawiranegara Hospital in Serang City, Banten, Indonesia. The author found that a majority of the nursing staff (59.0%) exhibited caring behaviors, with a mean score of 89.69 (Lukmanulhakim et al., 2019). Another study found that the mean score of caring behavior was 38.23 with SD 9.39 (19). Kibret in 2022 conducted research at public hospital in Harari region, Eastern Ethiopia about level and predictors of caring behavior found that the mean score of the caring behavior was 84.04 and 51.67% of the nurses had a high caring behavior (Kibret et al., 2022). Based on the aforementioned results caring behavior must be at high level to support the psychological and emotional aspect of the patient, as well as so that the nurse can achieve communication with patient and know what patients need to meet their needs.

Rresults in table (4) presented a significant difference between quality of nursing work life and caring behavior. to support thise finding Hamim in 2015 conducted a study at Probolinggo, Indonesia to determining caring behavior and quality of nursing work life and self-concept, the author stated that the quality of nursing

work life effect on caring behavior (Hamim, 2015). Based on the aforementioned evidence although 62.3% of nurses had moderate level of quality of nursing work life but nurses possessed a high level of caring behavior with patient.

Quality of nursing work life has a significant impact on caring behavior, the quality of nursing work life at moderate level and the proportion of nurses who had a high of caring behavior was higher. There is no association between demographical data with quality of nursing work life and caring behavior.

Recommendation

Health institutions must improve the quality of work life for nurses to raise the level of care and improve the level of job satisfaction. The researcher recommends to conduct research about quality of nurse life and caring behavior among all types of healthcare professional and across multi regions in Iraq.

Research implication:

1- **Nursing:** finding of this study will be considered as an evidence that nursing can be use in health care institution to serve patient and improve quality of nursing work life and caring behavior.

2- **Research**: finding of this study will be considered as an evidence that further studies can use evidence of this study.

3- **Educations:** finding of this study will be manipulated in the educational institution to the continues education program in health care institution.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Ethical considerations in this study were that participation was entirely optional. Study obtained approval from Committee of Scientific Research (CSR) in the College of Nursing at the University of Baghdad with 52 Date: 12/11/2024, and from the Center for Training and Developing Staff of the Health Ministry in Iraq.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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