Assessment of Challenges Encountering Nurses in Delivering Care to Patients with Cerebrovascular Accident

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ABSTRACT

Objective(s): The aim of the study is to assess the challenges encountered by nurses in delivering care for patients with cerebrovascular accidents in the neurological departments.

Methods: A descriptive study conducted purposely on 80 nurses working in the neurological departments in Baquba Teaching Hospital from January 9th to February 20th, 2023. Data analysis encompassed the application of both descriptive and inferential statistics.

Result: Nuero-specialized nurses faced many challenges namely: workload and role conflict, psychological load, inadequate resources, and feeling of increased responsibilities. The study also found a significant relationship between challenging workloads and nurse's workplaces, and their level of education.

Conclusions: Nurses encounter challenges psychological load, inadequate resources, and increased responsibilities that hinder the delivery of nursing care for cerebrovascular accidents patients.

Recommendations: This study recommends that healthcare organizations prioritize workload management strategies, supply the important resources, provide psychological support for nurses, offer education and training programs, and conduct further research about nursing challenges in different healthcare settings.

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تقييم التحديات التي تواجه الممرضات في تقديم الرعاية للمرضى الذين يعانون من الحوادث الدماغية الوعائية

المستخلص

الاهداف: الهدف من هذه الدراسة هو لتقييم التحديات التي تواجه الممرضين في تقديم الرعايـة للمرضـى الـذين يعـانون مـن الحادثـة الوعائية الدماغية في ردهات الامراض العصبية.

المنهجية: دراسة وصفية أجريت بصورة غرضية على ٨٠ ممرض يعملون في أقسام الجملة العصبية في مستشفى بعقوبة التعليمي في الفترة من ٩ كانون الثاني إلى ٢٠ شباط ٢٠٢٣. وشمل تحليل البيانات تطبيق كل من الإحصاء الوصفي والاستدلالي.

النتائج: يواجه الممرضون المتخصصون في مجال الجملة العصبية العديد من التحديات وهي: عبء العمل وصراع الأدوار، والعبء النفسي، وعدم كفاية الموارد، والشعور بالمسؤوليات المتزايدة. وجدت الدراسة أيضًا وجود علاقة ذات دلالة احصـائية بـين أعباء العمل الصعبة وأماكن عمل الممرضين ومستوى تعليمهم.

الاستنتاج: ان الممرضين يواجهون تحديات العبء النفسي وعـدم كفايـة المـوارد الداعمـة وزيـادة المسؤوليات في تقديم الرعايـة التمريضية لمرضى الحادثة الوعائية الدماغية.

التوصيات: توصي هذه الدراسة بأن تقوم مؤسسات الرعايـة الصحية بإعطاء الأولويـة لاسـتراتيجيات إدارة عـبء العمـل، وتحسـين توافر المواد الداعمة، وتوفير الدعم النفسي للممرضات، وتقديم برامج التعليم والتدريب، وإجراء مزيد مـن البحـوث حـول تحـديات التمريض في أماكن الرعاية الصحية المختلفة.

الكلمات المفتاحية: التقييم، الحادثة الوعائية الدماغية، العناية التمريضية، تحديات التمريض.

Introduction

Cerebrovascular accident (CVA), which are commonly referred to as strokes [1], continue to be a significant global health issue, ranking as the third leading cause of disability and the second leading cause of death worldwide [2], [3]. The global economic burden associated with CVA exceeds $721 billion [2]. In Iraq, CVA account for 20,793 deaths, representing for 14.19% of all mortality, and the country's age-adjusted death rate for CVAs is 128.44 per 100,000 people, placing it at 31st globally [4]

Nurses play a critical role in all stages of CVA care, including emergency and acute care in various healthcare settings [5]. Within specialized CVA units, nurses have diverse responsibilities, including assessment, monitoring, rehabilitation, and providing psychological support to aid recovery [6], [7]. However, nurses face challenges in fulfilling their duties, including a lack of training and role ambiguity, which can affect the quality of care provided for CVA patients [8].

Several Challenges contribute as barriers to delivering comprehensive CVA care, including fragmented care systems, lack of coordination among the healthcare team, inconsistent post-discharge care, and knowledge deficit among both patients and healthcare providers regarding CVA care [9], [10]. Previous research identified in-hospital challenges for CVA care included managing comorbidities, restrictions on thrombolytic therapy, and delays in identifying CVA patients [11]. Patient dissatisfaction with nursing care in neurological wards adds to these challenges [12]. Nurses also experience anxiety related to their workload, conflicting demands, and interactions with patients' families and physicians [13]. Addressing gaps in nursing research on acute CVA care is essential to meet the specific requirements of specialized nursing care [5]. The increasing aging population and population growth further exacerbate the challenges of providing high-quality CVA care, emphasizing the need for healthcare practitioners to be proficient in CVA care [14], [15]. Further research is necessary to determine the competency needs of healthcare personnel to meet the growing demand for CVA care [15]. Understanding the

challenges is the first step in addressing nursing issues [16]. Consequently, the development and implementation of nursing interventions aimed at enhancing the provision of high-quality care to populations at a relatively high risk of future CVA can be improved through a better understanding of these challenges [17]. It is crucial to eliminate existing Challenges and enhance facilities to support compassionate nursing care for patients with CVA [16].

Methods

Design of the Study

A descriptive design was employed to assess the challenges confronted by nurses in providing care for patients with cerebrovascular accident (CVA) in neurological wards.

Setting of the Study

This study was conducted between January 9th, 2023, and February 20th, 2023, at Baquba Teaching Hospital in Diyala Governorate, Baquba City, Iraq, specifically in the neurology department, including the Emergency department, medical ward, and Intensive Care Unit.

Sample and Sampling

A purposive sampling technique was employed to select 80 nurses. The inclusion criteria were nurses who provided direct nursing care to CVA patients at least once, nurses with a minimum of one year of experience in CVA care, and nurses of different genders, nursing education background, ages, and mode of their shifts. Nurses who were not working in the neurology wards, as well as those who worked in these wards but did not provide

care to CVA patients, were excluded from the study.

Instrument of the Study

The Challenges and Crisis Questionnaire Assessments tools were employed [18]. The questionnaire's reliability was assessed 0.89, indicating an acceptable level of reliability. The scoring of this tool is as follows: a score of one was assigned for a 'yes' response, while a score of zero was assigned for a 'no' response [18]. The responses were categorized into low scores (0.0-0.33), medium scores (0.34-0.66), and high scores (0.67-1).

Ethical Considerations

Ethical approval was obtained from the College of Nursing, University of Baghdad, and the Ministry of Health granted permission for conducting the research, considering ethical considerations. Permission was obtained from the original authors to utilize the tool [18]. Each participant in the study signed an agreement to participate.

Data analysis

Data was analysed using descriptive and inferential statistics, with the assistance of the statistical package SPSS version 26.0. The analysis began with descriptive data analysis, which involved generating tables that presented the frequencies and percentages of the demographic data. Additionally, measures such as the arithmetic mean and standard deviation were calculated for continuous variables. Furthermore, Mean Scores (MS) are used for two continuous scales (1 and 0). In inferential data analysis techniques are applied for nonparametric data including Spearman's rho correlation analysis and Kruskal-Wallis H test.

Results

Table 1. Distribution of Socio-Demographical Characteristics variables (N=80)

Variable	Classes	No	%
Sex	Male	49	61.3
	Female	31	38.8

Variable	Classes	No	%
Age	Mean (SD):27.24±3.52		
Nursing Education level	High school Nursing/ preparatory	6	7.5
	Diploma in Nursing	50	62.5
	Bachelor`s degree in Nursing	23	28.8
	MSc in Nursing/PhD in Nursing	1	1.3
Years of Experience	Mean (SD):4.3±3.22		
Workplace	Internal Medicine Ward	26	32.5
	Emergency Ward	26	32.5
	Intensive Care Unit	28	35.0
	Total	80	100
Shift	Morning Shift Nurse	16	20.0
	Evening Shift Nurse	64	80.0

N= Number**, %:** Percentage**, SD**= Standard deviation.

Table 1 indicates that the majority of nurses were males, 61.3% (n = 49), with an average age mean 27.24 ± 3.52 years. Concerning education, 62.5% (n = 50) held a diploma in nursing, and the average years of experience were 4.3 ± 3.2. The majority of participants worked the evening shift, accounting for 80.0% (n = 64).

Table 2. Challenges facing Nurses toward providing care for patients with cerebrovascular accident

Domain's Items	Resp.	No.	MS	Ass. [*]
Workload				
1. Increased workload assigned to him	No	26	0.68	H
	Yes	54		
2. Insufficient time to complete the assigned work	No	64	0.20	L
	Yes	16		
3. Increased need to work long hours (long shifts)	No	46	0.42	M
	Yes	34		
4. Caring for a large number of patients in a short time	No	24	0.70	H
	Yes	56		
5. Increased work at night or late hours	No	27	0.66	M
	Yes	53		
Total			*0.53*	*M*
Psychological Load				
1. Dealing with critical and chronic diseases with little hope of recovery	No	10	0.87	H
	Yes	70		
2. Fear of possible transmission of infection from patients	No	17	0.79	H
	Yes	63		
3. Dealing with patients with different values and beliefs	No	14	0.83	H
	Yes	66		
4. Dealing with patients who do not adhere to instructions	No	11	0.86	H
	Yes	69		
5. Lack of appreciation for the nurse's efforts	No	7	0.91	H
	Yes	73		
Total			*0.85*	*H*
Supportive Materials				
1. Lack of availability of beds, examination rooms, and some equipment and medicines	No	14	0.82	H
	Yes	66		
2. The lack of suitable nursing offices	No	17	0.79	H
	Yes	63		

Domain's Items	Resp.	No.	MS	Ass. [(*)]
3. The presence of some high-tech devices that exceed your capabilities and cognitive skills, and you have not received any training to deal with them	No	59	0.26	L
	Yes	21		
4. Lack of chance to introduce your abilities and skills	No	26	0.67	H
	Yes	54		
5. The work atmosphere is full of tension and stress	No	14	0.83	H
	Yes	66		
Total			*0.67*	*H*
Sense of Responsibility				
1. Sense of responsibility for some of the equipment and materials, medicines, and supplies	No	7	0.91	H
	Yes	73		
2. Sense of responsibility for some critical cases	No	3	0.96	H
	Yes	77		
3. Do not specify the duties and responsibilities of nursing	No	29	0.64	M
	Yes	51		
4. Lack of administrative and leadership competence of your superiors	No	29	0.64	M
	Yes	51		
5. Lack of support from superiors at work	No	24	0.70	H
	Yes	56		
Total			*0.77*	*H*
Role Conflict				
1. Working in long shifts, which causes interference with the duties of family	No	41	0.49	M
	Yes	39		
2. Family life suffers due to the choice of the nursing profession.	No	42	0.47	M
	Yes	38		
3. Instability in family life as a result of increased working hours and long working hours	No	35	0.56	M
	Yes	45		
Total			*0.50*	*M*
Overall domains			*0.66*	*M*

(*) **Assessments Intervals Scoring Scales: [L**= Low ((0.0-0.33)]; **[M**= Moderate (0.34 - 0.66)**]; [H**= High (0.67-1)], **Ass.** = Assessment, **MS**= Mean Scores

Table 2 shows the total mean score of the "workload" domain was rated moderately (MS = 0.53), while the "psychological load" domain was rated highly (MS = 0.85). The "supportive materials" domain was also rated highly (MS = 0.67), and the "sense of responsibility" domain received a high rating (MS = 0.77). The "Role Conflict" domain was moderately rated (MS = 0.50). As an overall assessment, the domains studied were evaluated at a moderate rate (MS = 0.66).

Table 3. Differences regarding workplaces and challenges Facing Nurses towards providing care to patients with cerebrovascular accidents

	Workload	Psychological load	Supportive materials	Sense of responsibility	Role conflict	Overall domains
Kruskal-Wallis H	17.074	.187	1.675	1.842	5.026	4.472
Df	2	2	2	2	2	2
Asymp. Sig.	.000	.911	.433	.398	.081	.107

df= Degree of freedom, **S**= Sig. at P<0.05; **NS**= Non Sig. at P>0.05.

Table 3 shows that there are statistically significant differences between workplaces and the "Workload" domain (p = 0.00). However, no significant differences were found in the psychological load, Supportive materials, Sense of responsibility, Role conflict domain, and overall domains, as the p-value is greater than 0.05.

Table 4. Differences regarding education level and main domains and overall domains concerning challenges Facing Nurses towards providing care to patients with cerebrovascular accidents

	Workload	Psychological load	Supportive materials	Sense of responsibility	Role conflict	Overall domains
Kruskal-Wallis H	17.211	.913	3.665	6.372	3.706	7.228
Df	3	3	3	3	3	3
Asymp. Sig.	.001	.822	.300	.095	.295	.065

S= Sig. at P<0.05; **NS=** Non Sig. at P>0.05.

Table 4 shows that there are statistically significant differences between education level and the participants "workload" (p = 0.001).

Table 5. Correlation between main domains concerning challenges Facing Nurses towards providing care to patients with cerebrovascular accident(N=80).

Corr. & P-value	Main Domains	Psychological Load	Supportive Materials	Sense of Responsibility	Role Conflict
Correlation	**Workload**	-0.291	-0.065	-.122	0.299*
	Psychological Load		0.198	0.099	-0.050
	Supportive Materials			.233*	0.269*
	Sense of Responsibility				-0.052
P-value	**Workload**	0.009	0.567	0.281	0.007
	Psychological Load		0.078	0.381	0.660
	Supportive Materials			0.038	0.016
	Sense of Responsibility				0.650

(*) Correlation is significant at the 0.05 level (2-tailed).; Statistical hypothesis is based on Spearman's rho Coefficients.

Table 5 shows a negative correlation between "workload" and "psychological load" (r = -0.291, p = 0.009). A positive correlation exists between "workload" and "role conflict" (r = 0.299, p = 0.007). Moreover, there are positive correlations between "supportive materials" and both "sense of responsibility" (r = 0.233, p = 0.038) and "role conflict" (r = 0.269, p = 0.016).

Discussion

This study demonstrates that male participants were dominant. These findings are consistent with the results of two studies conducted in Iraq, which also indicate a higher representation of male nurses than female nurses in the samples. [19], [20].

Nonetheless, it is important to state that gender distribution may vary in various regions and healthcare environments, making direct comparisons subject to variations.

The average age of the participants in the current study was 27.24±3.52 years. These results are comparable to a study conducted in Jordan, which reported an average age of 26.8

years among the nursing samples. [21]. In addition, the sample of the study was conducted in Al-Diwaniya Teaching Hospital, most of whose sample ages ranged between 25-29 years [22]. These findings suggest that the current sample consisted of relatively youthful nursing professionals, which aligns with the earlier stages of their employment.

In terms of education level, the proportions of participants (62.5%) carried a diploma in nursing, followed by 28.8% with a bachelor's degree in nursing, and the remaining participants had high school nursing or preparatory education. These proportions are comparable with the findings of the study sample conducted in AL-Hussein Medical City Hospital in Karbala/Iraq, which similarly reported distributions of diploma, bachelor's degree, and high school nursing holders [23]. However, the current study had a lower percentage of participants with a master's or Ph.D. degree in nursing (1.3%). These findings are consistent with the study sample conducted in AL-Nasiriyah Heart Center, which reported a lower percentage of advanced degree holders in nursing [24]. Regarding years of experience, the current study found an average of 4.3±3.22 years among the participants. This corresponds with the findings of a study sample conducted in Baghdad Teaching Hospital, which noted that a majority of the nursing participants had 1-5 years of experience [25]. These results indicate that current participants were in the early stages of their nursing jobs. In terms of shift distribution, the current study revealed that 80.0% of the participants worked the evening shift, while 20.0% worked the morning shift. These results are inconsistent with the study sample conducted in Iraq, which reported a smaller proportion of nurse participants working the evening shift compared to the morning shift. [26]. This discrepancy emphasizes the prevalence of evening shift work among our sample due to the 24-hour schedule of the wards from which the

participants were selected, resulting in fewer participants working the morning shift.

Challenges Facing Nurses Toward Providing Care to Patients with Cerebrovascular Accidents

The findings of the current study indicate a moderate level of workload challenges faced by nurses in providing care for CVA patients. This is consistent with the results of a cross-sectional study conducted in Iran, which utilizes the Nursing Activities Score (NAS) to assess physical workload and reported a high level (72.84%) of physical workload among nurses in the ICU [27]. Another study conducted in Egypt further supports the indicators of nursing workload in patient care, such as increased patient dependency and extended working hours for nurses, showing that as patients' dependence increases, nurses' workload also increases at various levels [28]. Furthermore, the current study revealed a significant and direct relationship between workload and role conflict. This finding is consistent with the study conducted in Egypt, which also identified a significant relationship between workload challenges and role conflict [18]. These results indicate that workload challenges in providing care for CVA patients are influenced by factors such as patient dependency, increased working hours, and the presence of role conflict [29], [28], [18] [27].

The current study's findings indicate a high level of psychological load challenges faced by nurses in providing care to patients with cerebrovascular accident (CVA). This finding is supported by a cross-sectional study conducted in Iran, which utilized the NASA Task Load Index (NASA-TLX) to assess mental workload and reported a high level (70.21%) of mental workload among nurses in the ICU [27].

Furthermore, the current study revealed a statistically significant relationship between nurse's workload and psychological

load. This is consistent with a study conducted in Iran, which found a significant relationship between physical workload and mental workload [27]. Additionally, the study conducted in Egypt demonstrated higher levels of burnout associated with factors such as nurse-to-patient ratios, increased monthly admissions, higher mortality rates, and conflicts with department heads, patients, and their relatives [30]. These factors contribute to elevated the level of burnout among nurses [30]. Occupational stressors such as poor attitudes of doctors, working in stressful units (emergency/intensive care units), inadequate income, extra work, time pressure, and inadequate rest and meals have also been identified as sources of stress for nurses [31], [32]. These factors further contribute to the psychological load experienced by nurses in providing care to CVA patients.

The current study's findings indicate a high rate of challenges related to supportive materials and a sense of responsibility. These findings are supported by the descriptive, exploratory, and qualitative study conducted in Egypt, which reported medium and high levels of challenges in the supportive materials and the sense of responsibility among nurses in the intensive care unit (ICU) [18]. The challenges of supportive materials in the context of CVA care can be attributed to factors such as the shortage of supplies, lack of designated spaces for nurses, and stressful working conditions [32], [13], [33]. Similarly, the challenge of the sense of responsibility arises from the critical condition of CVA patients, which places the responsibility on nurses to provide medications and equipment for their care [34].

The current study found a statistically significant relationship between the challenge of supportive materials and the challenges of the sense of responsibility and role conflict among nurses providing care for CVA patients. These findings differ from the study conducted in Egypt, where no statistically

significant relationship was found between the challenge of supportive materials and the challenges of the sense of responsibility and role conflict among a sample of 45 nurses in the ICU [18]. Additionally, in a mixed method study conducted during the COVID-19 pandemic in Iraq, a significant relationship was found between the challenges of supportive materials and the sense of responsibility, but no significant relationship was found with role conflict among a sample of 35 ICU nurses [35]. These discrepancies in findings may be attributed to various factors, including the specific healthcare environment, available resources, organizational structures, sample sizes, and cultural contexts. Each study was conducted in a unique setting, which can contribute to variations in the challenges faced by nurses and their perceptions of the sense of responsibility and role conflict. Therefore, these findings suggest that the challenge of supportive materials has an impact on the challenges of the sense of responsibility and role conflict among nurses providing care for CVA patients.

The current study findings reveal that nurses experience a moderate rate of challenge regarding role conflict. This aligns with the results of a cross-sectional survey conducted among nurses in acute care hospitals in Ontario, Canada [36]. These results highlight the challenges nurses face in managing conflicting demands and balancing their professional responsibilities with personal obligations.

This study finds a significant relationship between challenging workloads in the workplace and nurses qualification. This finding is supported by a retrospective observational study conducted by Falk (2023) that noted differences in workload based on educational level [37]. Considering these indicators, there are differences in the challenging workload faced by nurses at different levels of education background

when providing care for CVA patients. These differences may arise due to variations in the specific responsibilities assigned according to educational levels. Each nursing qualification may entail different work requirements and responsibilities. Additionally, a cross-sectional study in Iran found variations in workload among nurses in different healthcare settings [27]. Factors such as staffing levels, resource availability, work environment, and patient complexity can significantly influence the workload experienced by nurses [38]. When these factors are unfavorable or inadequate, nurses are more likely to face increased workload demands, which can impact their job satisfaction, burnout rates, and the quality of patient care they can provide [39], [40], [40]

Conclusion

The study determinate several challenges faced by nurses in providing care to patients with cerebrovascular accident (CVA). These challenges included moderate levels of workload and role conflict, as well as high levels of psychological load, inadequate availability of supportive materials, and increased responsibilities for nurses. The findings also revealed a significant relationship between challenging workloads and workplaces, as well as the level of education.

Recommendations

It is recommended that healthcare organizations prioritize workload management strategies, improve the availability of supportive materials, provide psychological support for nurses, offer education and training programs, and conduct further research in different healthcare settings. Implementing these recommendations can create a supportive environment for nurses, improve their well-being, and enhance the quality of care for CVA patients.

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