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Evidence-Based Practice among Critical Care Nurse's/Midwives in Qatar

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Abstract

Background: Successful implementation of evidence-based research into clinical practice was determined by four core elements, self-belief, the nature and level of evidence, the conductive context into which the study is to be implemented, and organizational factors facilitating the process. **Aim:** The current study aimed to examine barriers influencing evidence-based practice among critical care nurses in QATAR. **Methods:** A cross-sectional survey was utilized for the study resulting in data collected from 278 nurses during the period of Feb-2021 to March 2021 using the Barriers to Research Utilization Scale (BTRUS). The BTRUS consisted of data on various information sources utilized by nurses for support in practice, potential barriers for evidence-based practice, and perceived skills on applying research-based evidence. **Result:** The most significant organizational barriers were lack of time, lack of empowerment to change practice, lack of support from colleagues in implementing research evidence, and lack of access to research articles. Self-perceived barriers were irrelevance of research evidence to current practice, studies having methodological flaws, skepticism about research findings, a large amount of research evidence, and inability to understand statistics. The Nurse's age, years of nursing practice, academic attainment, and organizational position influenced self-reported barriers and utilization of sources of Evidence. **Conclusion:** Organizational support, improved self-belief, and evidence-based practice expertise may reduce barriers to implementing research evidence in clinical Practice.

Keywords

EBP—Evidence Based Practice, CNS/CMS—Clinical Nurse/Midwife Specialists

1. Introduction and Background

Evidence-Based Practice (EBP) in Nursing is a framework for clinical practice that integrates the best available scientific Evidence with a Nurse's expertise and the patient's preferences to decide about the health care of individual patients [1] [2] [3]. Nurses and midwives are the largest group of health care providers and have a crucial role in ensuring better services to promote health care. Nurses are expected to provide high-quality, safe, effective, fast, and patient-oriented care [4]. Knowledge of research and evidence-based care has become an integral part of nursing practice; this knowledge has resulted in the extended role of nurses, including advanced nurse practitioners and clinical nurse specialists [5].

The Institute of Medicine stressed the importance of practicing care be based on scientific Evidence and stated that, by the 2020s, approximately 90% of all decisions related to patient care should be based on Evidence [6]. Despite increasing availability of research findings and broad consensus on the importance of its benefits in the nursing discipline, using them in nursing practice remains, at best, slow and arbitrary. This "gap between research and practice" is a worldwide phenomenon, resulting in suboptimal care being delivered to patients. To achieve this, identifying barriers and facilitators of evidence-based practices would be a key strategy [7] [8] [9].

Robust Evidence is considered a crucial factor in Critical Care Units (CCUs), and it's essential to keep up with new Evidence to provide high-quality-cost-effective nursing care [8]. Inadequate utilization of research findings in clinical areas leads to negative consequences, including ineffective use of resources, unsatisfactory patient outcomes, negative impact on quality, the length of stay, and increased cost and possible potential health complications [10] [11].

Therefore, an abundant amount of data shows that patients who received care based on the latest evidence experienced 28% improvements in behavioural knowledge and physiological and psychosocial outcomes than patients whose care was based on traditional practice [11]. Although Nurses generally report positive attitudes and beliefs towards EBP, there are many barriers to implementing EBP, including individual and organizational barriers [12]. These include lack of familiarity, lack of time, heavy workload, lack of experienced staff in EBP resources [1] [11] [13].

According to the researcher's knowledge, limited research studies were conducted on Barriers to EBP in critical care nurses and Clinical Nurses/Midwife Specialists in the middle east region, including Qatar. They have a crucial role in synthesizing Evidence and supporting the organization to implement EBP in Clinical Practices. In accordance with the paradigm shift of national health strategy, HMC encourages traditional nursing practices based on intuition to clinically proven [12]. HMC focus on developing a research culture on Nurses, particularly in critical care and CNS in the Initial stage. Accordingly, the present study aimed to find out the barriers influencing evidence-based practice application among critical care nurses.

2. Methods

2.1. Design and Objectives

Quantitative Cross-sectional design adopted for this study involving all critical care Nurses and CNS and CMS working in HMC. Self-reported questionnaires were designed to fulfil the following research objectives, *i.e.*, the barriers of evidence-based practices among essential nurses of care and Clinical Nurse Specialists; the association between demographic variables (age, gender, Marital status, academic qualifications experience, job Position) with barriers to EBP; the factors to facilitate to implement EBP.

2.2. Study Settings and Sampling

The study was conducted in Hamad Medical Corporation, the primary health care provider in Qatar. The nursing research department conducted a clinical research workshop on critical care nurses in collaboration with Guy's and St. Thomas Hospital, NHS trust UK in 2019. The Nursing Research team identified the gap in research knowledge and practiced among critical care nurses through the clinical research workshop. So this study enrolled all essential nurses of care and CNS working in selected facilities under HMC like Hamad General Hospital, Alwakrah Hospital, Heart hospital, WWRC, Cuban Hospital, Hazmmaebarik general hospital, Ambulatory Care Center, Communicable disease center, Rumailah Hospital, and Alkhor Hospital. The total study period was seven months, and the data were collected for two months (Feb-2021 to March 2021). The data was collected from the participants through the online survey. The total population was nearly 1000, including all critical care nurses and Clinical nurses/Midwife specialists in HMC. The calculated sample size was 278 based on 95% of the confidence interval and 5% marginal error. The research team winds up the data collection when it was reached 289 responses. All the critical care Nurses, CNS, and CMS working in different facilities of HMC were included, whereas newly hired nurses are crucial to adapt to HMC culture, improving clinical skills and targeting to complete their clinical competency were excluded.

2.3. Instruments and Data Collection

The data were collected by using validated 5 points "Barriers to Research utilization scale (BTRUS) scale" developed by S. Funk *et al.* [14] with their permission. The scale was modified to barriers to Evidence-Based Practice Questionnaire (EBPQ) based on pilot study responses. The scale has three different sessions. First Session consisted of 6 demographic questions of the participants. The second Session includes 31 questions addressed to barriers to EBP.

The first eight questions were focused on a nurse-related barrier, and the second 11 questions addressed the research-related barrier, and the last 12 questions were on organizational barriers.

The Third section comprises two open-ended questions about the additional barriers and facilitating factors to Evidence-Based Practice. The measurement of

the scale was categorized and scored as [0—No extent, 1—little Extent, 2—Moderate extent, 3—Great Extent, 4—No opinion]. Moderate extent and great extent score were considered barriers, whereas No Opinion excluded from the data analysis.

2.4. Data Collection Procedure

The electronic version of the questionnaire was circulated to the critical care Nurses and CNS through the nursing email group with the help of Nursing leaders of the Critical care department and HMC workforce. "Microsoft Forms" was used as a platform to create the online survey link. The purpose of the study was clearly mentioned to the participants through the Information sheet along with an email. The subject's participation in the study was completely voluntary and anonymous. Each participant took below 15 minutes to complete the questionnaire; also, the completion of the questionnaire indicates consent to participate in the study. The participants were allowed to clarify their doubts and concerns regarding this study, and it was explained by the research team members through email and telephone. Two reminders were sent to the participants to encourage their participation in the study. The survey link was opened for a 2-month period, and no further follow-up or contact was required with the participants.

2.5. Statistical Analysis

Quantitative data were coded and analyzed using STATA 15.01 software. The data was obtained through descriptive statistics of means, standard deviations, and frequencies. Analysis was performed as follows. For each subscale, the mean scores were added, and then the sum was divided by the number of items in the subscale. For the continuous variables to check the statistical association between demographic variables and Scores, t-test and one-way ANOVA tests were used. The comparison of categorical variables was made by the chi-squared test.

2.6. Ethical Consideration

This study was conducted in full conformance with principles of the "Belmont Report." The Permission letter was obtained from the Institutional Review Board (MRC-01-20-1059) of HMC before data collection.

3. Results

The questionnaire was answered by 289 participants. All participants fully completed the barrier scale questionnaire. Table 1 presents the distribution of demographic characteristics of the participants. The sample included 76.8% women. The average age was 34.3 years (SD = 8.2), with a range of 20 - 56 years. Regarding marital status, 225 (77.9%) were married; 1 (0.3%) were divorced/ widow. Mostly had completed bachelor's degree 196 (67.8%) and 61 (21.1%) had completed masters/ Ph.D. and 11.1% (n = 32) completed diploma. We noticed that (70.9%) were staff nurses, and 17.3% of nurses had 5 to 10 years of experience.

Table 1. Characteristics of participants' demographics.

	Total
	N = 289
Age in years	34.3 (8.2)
Gender	
Male	67/289 (23.2%)
Female	222/289 (76.8%)
Marital status	
single	63/289 (21.8%)
married	225/289 (77.9%)
divorced	1/289 (0.3%)
Years of Experience in Nursing Research	
No experience	120/289 (41.5%)
less than 5	119/289 (41.2%)
5 - 10 years	50/289 (17.3%)
Position in HMC	
staff nurse	205/289 (70.9%)
charge Nurse	32/289 (11.1%)
head nurse	13/289 (4.5%)
CNS	32/289 (11.1%)
others	7/289 (2.4%)
Highest education level	
Doctorate	3/289 (1.0%)
Master's degree	58/289 (20.1%)
Bachelor's degree	196/289 (67.8%)
Diploma	32/289 (11.1%)

More than half of the participants agreed that 51.6%, 47.0%, and 55.3% of barriers to implementation of evidence-based Practice are related to organizational, research, and individual aspects, respectively. The obstacles of evidence-based practice (EBP) by nurses, research-related, and organizational aspects are presented in Table 2.

The lack of time for research (shortage of time) (66.9%), lack of authority to change the patient care procedure at work (63.7%), feels lack of benefits to change the Practice (54.6%) and uncertainty regarding whether to believe the results of the research (54.2%) are the most important individual barriers.

The most important research related barriers to implementation of EBP are lack of knowledge to understand the statistical analysis (58.6%), relevant literature not being compiled in one location (53.0%), lack of research information (55.4%), and feeling incapable of evaluating the quality of the research (52.0%).

Table 2. BARRIER Scale items.

	Mean ± SD n/N (%)
Nurse (Individual) related factors	
The Nurse does not have time to read the research.	1.9 (0.9)
No extent	16/281 (5.7%)
little extent	77/281 (27.4%)
moderate/great extent	188/281 (66.9%)
The Nurse feels the benefits of changing Practice will be minimal	1.6 (1.0)
No extent	54/282 (19.1%)
little extent	74/282 (26.2%)
moderate/great extent	154/282 (54.6%)
The Nurse is uncertain whether to believe the results of the research	1.6 (1.1)
No extent	56/277 (20.2%)
little extent	71/277 (25.6%)
moderate/great extent	150/277 (54.2%)
The Nurse does not feel she/he has enough authority to change the patient care process	1.9 (1.0)
No extent	32/278 (11.5%)
little extent	69/278 (24.8%)
moderate/great extent	177/278 (63.7%)
The Nurse sees research results are little benefit for self	1.5 (1.1)
No extent	62/276 (22.5%)
little extent	77/276 (27.9%)
moderate/great extent	137/276 (49.6%)
The Nurse does not see the value of research for practice	1.4 (1.2)
No extent	88/271 (32.5%)
little extent	53/271 (19.6%)
moderate/great extent	130/271 (48.0%)
The Nurse is unwilling to change/try new ideas in Practice	1.3 (1.2)
No extent	109/289 (37.7%)
little extent	58/289 (20.1%)
moderate/great extent	48/289 (16.6%)
The patient is not willing to accept the treatment or a procedure based on quality research	1.6 (1.2)
No extent	62/261 (23.8%)
little extent	68/261 (26.1%)
moderate/great extent	131/261 (50.2%)
Research related factors	
Research Implications for Practice are not made clear	1.6 (1.1)
No extent	48/270 (17.8%)
little extent	97/270 (35.9%)
moderate/great extent	125/270 (46.3%)

Continued

Statistical analyses are not understandable	1.7 (1.0)	
No extent		40/273 (14.7%)
little extent		73/273 (26.7%)
moderate/great extent		160/273 (58.6%)
The research is not relevant to the Nurse's Practice	1.3 (1.2)	
No extent		101/276 (36.6%)
little extent		63/276 (22.8%)
moderate/great extent		112/276 (40.6%)
The research has methodological inadequacies	1.5 (1.2)	
No extent		64/262 (24.4%)
little extent		85/262 (32.4%)
moderate/great extent		113/262 (43.1%)
The relevant literature is not compiled in one place	1.7 (1.1)	
No extent		51/268 (19.0%)
little extent		75/268 (28.0%)
moderate/great extent		142/268 (53.0%)
The conclusions drawn from the research are not justified to Practice	1.5 (1.1)	
No extent		60/275 (21.8%)
little extent		80/275 (29.1%)
moderate/great extent		135/275 (49.1%)
The literature reports conflicting results	1.6 (1.1)	
No extent		45/269 (16.7%)
little extent		103/269 (38.3%)
moderate/great extent		121/269 (45.0%)
The research is not reported clearly and readably	1.5(1.1)	
No extent		71/275 (25.8%)
little extent		75/275 (27.3%)
moderate/great extent		129/275 (46.9%)
The amount of research information is overwhelming	1.8 (1.1)	
No extent		39/267 (14.6%)
little extent		80/267 (30.0%)
moderate/great extent		148/267 (55.4%)
The Nurse does not feel capable of evaluating the quality of the research	1.6 (1.1)	
No extent		58/275 (21.1%)
little extent		74/275 (26.9%)
moderate/great extent		143/275 (52.0%)

Continued

English Language is Used in research is difficult to understand	0.9 (1.1)	
No extent		143/280 (51.1%)
little extent		61/280 (21.8%)
moderate/great extent		76/280 (27.1%)
Organizational factors		
Research reports/articles are not readily available.	1.5 (1.1)	
No extent		58/277 (20.9%)
little extent		83/277 (30.0%)
moderate/great extent		136/277 (49.1%)
The facilities are inadequate for implementation of research result in Practice	1.4 (1.1)	
No extent		69/274 (25.2%)
little extent		89/274 (32.5%)
moderate/great extent		116/274 (42.3%)
The Nurse feels results are not generalizable to own setting.	1.5 (1.0)	
No extent		47/274 (17.2%)
little extent		99/274 (36.1%)
moderate/great extent		128/274 (46.7%)
The Nurse is isolated from knowledgeable colleagues with whom to discuss the research	1.7 (1.1)	
No extent		50/277 (18.1%)
little extent		67/277 (24.2%)
moderate/great extent		160/277 (57.8%)
Physicians will not cooperate with implementation of result in Practice	1.7 (1.1)	
No extent		47/277 (17.0%)
little extent		82/277 (29.6%)
moderate/great extent		148/277 (53.4%)
There is not a documented need to change Practice	1.5 (1.1)	
No extent		68/275 (24.7%)
little extent		73/275 (26.5%)
moderate/great extent		134/275 (48.7%)
Other staff is not supportive of implementation of study result	1.6 (1.1)	
No extent		51/277 (18.4%)
little extent		85/277 (30.7%)
moderate/great extent		141/277 (50.9%)
There is insufficient time on the job to implement new ideas	1.9 (1.0)	
No extent		33/278 (11.9%)
little extent		67/278 (24.1%)
moderate/great extent		178/278 (64.0%)

Continued

My Organization is less motivating nurses to use findings in nursing practice	1.4 (1.2)	
No extent		82/289 (28.4%)
little extent		72/289(24.9%)
moderate/great extent		115/289(39.8%)
Inadequate facility to access up to date research resources (Library, Journals)	1.5 (1.1)	
No extent		67/289 (23.2%)
little extent		74/289(25.6%)
moderate/great extent		135/289(46.7%)
Training is not adequate by the Organization to use research findings in my clinical Practice	1.7 (1.2)	
No extent		54/289 (18.7%)
little extent		71/289(24.6%)
moderate/great extent		147/289(50.9%)
I don't have access to expert Nursing research Staff in the Organization	1.8 (1.2)	
No extent		50/289 (17.3%)
little extent		71/289(24.6%)
Moderate/great extent		147/289(50.9%)

In terms of organizational barrier, the most common factor was insufficient time on the job to implement new ideas (64.0%), nurse is isolated from knowledgeable colleagues with whom to discuss the research (57.8%) and thinking physicians will not cooperate with the implementation of result in practice (53.9%) also inadequate training and not having expert research staff in facility reported was (50.9%).

The main barriers to using research evidence in nursing practice among nurses working in HMC were items appearing under research related (mean 13.9). BARRIER Scale items in rank order by each factor score are summarised in Table 2.

Table 3 demonstrates the associations between demographic variables and barriers to implementation of evidence-based practice by individual, research, and organizational aspects. There was a statistical and significant correlation between education level (P = 0.018), gender (p = 0.05 considered as significant), and barriers to implementation of evidence-based practice experienced by nurses associated with organizational aspects.

Barriers to implementation of evidence-based practice experienced by nurses associated with individual (p ≤ 0.001) and research (p ≤ 0.047) aspects, only gender was significant respectively.

Table 4 shows the association between each item of different evidence-based Practices, *i.e.*, individual, research, and organizational aspects and designation (clinical nurse specialist (CNS) vs. others). In terms of Nurse related parts, we found the patient is not willing to accept the treatment or procedure based on quality research result factor was having higher barrier with staff nurse, charge nurse, and head Nurse compared to CNS (mean 1.4; p = 0.004).

Table 3. Associations between demographic variables and implementation of evidence-based Practice by individual, research and organizational aspects.

			Nursing barrier	Research barrier	Organization barrier
Gender	Male	N = 67	13.3 (5.0)	15.6 (7.5)	12.6 (5.9)
	Female	N = 222	10.6 (5.1)	13.4 (8.0)	11.0 (5.8)
	p-value		<0.001	0.047	0.05
Marital status	Single	N = 63	10.3 (5.6)	12.4 (9.1)	10.7 (6.5)
	Married	N = 225	11.5 (5.1)	14.3 (7.6)	11.6 (5.7)
	p-value		0.25	0.13	0.53
Years of Experience	No experience	N = 120	10.7 (4.9)	13.5 (7.5)	10.7 (5.7)
	less than 5	N = 119	11.4 (5.3)	13.4 (8.1)	11.8 (5.9)
	5 - 10 years	N = 50	12.3 (5.4)	16.1 (8.5)	12.3 (5.9)
	p-value		0.16	0.094	0.18
Position in HMC	Staff nurse	N = 205	11.1 (5.2)	14.1 (8.1)	11.2 (5.9)
	Charge nurse	N = 32	11.7 (5.0)	13.3 (7.5)	10.4 (5.9)
	Head nurse	N = 13	13.7 (4.4)	15.8 (8.4)	12.4 (6.6)
	CNS	N = 32	10.5 (6.0)	12.1 (7.8)	13.2 (5.3)
	others	N = 7	12.6 (3.6)	16.4 (3.0)	12.1 (4.6)
	p-value		0.36	0.5	0.34
Highest level of nursing education	Doctorate	N = 3	8.0 (2.0)	4.3 (3.5)	3.7 (2.3)
	Master's degree	N = 58	11.3 (5.5)	13.4 (7.8)	12.9 (5.2)
	Bachelor's degree	N = 196	11.4 (5.2)	14.4 (8.0)	11.2 (5.9)
	Diploma	N = 32	10.4 (4.5)	12.7 (7.4)	10.5 (6.0)
	p-value		0.55	0.1	0.018

Table 4. Difference between CNS and others (staff nurses, charge nurse, and head nurses) and implementation of evidence-based Practice by the individual, research, and organizational aspects.

Factor	Staff nurse, charge nurse, and Head Nurse	CNS	p-value
N	257	32	
	Mean (SD)	Mean (SD)	
The Nurse does not have time to read the research	1.8 (0.8)	1.9 (0.9)	0.42
The Nurse feels the benefits of changing Practice will be minimal	1.5 (1.0)	1.5 (1.0)	0.97
The Nurse is uncertain whether to believe the results of the research	1.5 (1.0)	1.5 (1.0)	0.99
The Nurse does not feel she/he has enough authority to change the patient care process	1.8 (1.0)	1.8 (1.1)	0.81
The Nurse sees research results are little benefit for self	1.5 (1.0)	1.2 (1.1)	0.15
The Nurse does not see the value of research for practice	1.3 (1.0)	1.2 (1.1)	0.69

Continued

The Nurse is unwilling to change/try new ideas in Practice	1.2 (1.1)	0.9 (1.0)	0.21
The patient is not willing to accept the treatment or a procedure based on quality research results	1.4 (1.0)	0.9 (0.9)	0.004
Overall Nursing barrier	**11.3 (5.1)**	**10.5 (6.0)**	**0.41**
Research Implications for Practice are not made clear	1.4 (0.9)	1.3 (1.1)	0.57
Statistical analyses are not understandable	1.6 (0.9)	1.3 (1.1)	0.042
The research is not relevant to the Nurse's Practice	1.1 (1.0)	1.1 (1.0)	0.72
The research has methodological inadequacies	1.3 (0.9)	1.0 (1.0)	0.15
The relevant literature is not compiled in one place	1.5 (0.9)	1.5 (1.1)	0.76
The conclusions drawn from the research are not justified to Practice	1.4 (0.9)	1.0 (0.9)	0.031
The literature reports conflicting results	1.4 (0.9)	1.0 (0.8)	0.010
The research is not reported clearly and readably	1.4 (1.0)	1.0 (1.0)	0.041
The amount of research information is overwhelming	1.6 (0.9)	1.4 (1.0)	0.37
The Nurse does not feel capable of evaluating the quality of the research	1.5 (1.0)	1.2 (1.1)	0.053
The English Language is Used in research is difficult to understand	0.8 (1.0)	0.8 (1.1)	0.91
Overall Research barrier	**14.1 (8.0)**	**12.1 (7.8)**	**0.18**
Research reports/articles are not readily available.	1.4 (0.9)	1.5 (1.2)	0.82
The facilities are inadequate for the implementation of research result in Practice	1.3 (1.0)	1.6 (0.8)	0.11
The Nurse feels results are not generalizable to own setting.	1.4 (0.8)	1.5 (1.0)	0.58
The Nurse is isolated from knowledgeable colleagues with whom to discuss the research.	1.6 (1.0)	1.8 (1.0)	0.12
Physicians will not cooperate with the implementation of results in Practice	1.5 (1.0)	1.9 (1.0)	0.021
There is not a documented need to change Practice	1.4 (1.0)	1.4 (1.0)	0.78
Another staff is not supportive of the implementation of study result	1.5 (1.0)	1.7 (1.2)	0.36
There is insufficient time on the job to implement new ideas	1.8 (1.0)	2.0 (1.0)	0.23
My Organization is less motivating nurses to use findings in nursing practice	1.4 (1.1)	1.4 (1.0)	0.76
Inadequate facility to access up to date research resources (Library, Journals)	1.5 (1.1)	1.8 (1.1)	0.071
Training is not adequate by the Organization to use research findings in my clinical Practice	1.6 (1.1)	1.8 (1.0)	0.40
I don't have access to expert Nursing research Staff in the Organization	1.7 (1.1)	1.3 (1.0)	0.034
Overall Organization barrier	**17.4 (8.5)**	**19.5 (7.8)**	**0.18**

The staff nurse, charge nurse, and head nurses reported that difficulty in understanding the statistical analysis (mean 1.6; p = 0.04), conclusions drawn from the research are not justified to practice (mean 1.4; p = 0.03), literature reports conflicting results (mean 1.4; p = 0.01) and the research is not reported clearly and readably (mean 1.4; p = 0.04) as compared to CNS which is statistically significant in terms of research barriers. For the organizational factors, the barrier was significantly higher in terms of physicians will not cooperate with the im-

plementation of results in Practice (mean 1.9; p = 0.02) in CNS as compared to staff nurses, charge nurses, and head nurses.

The communication gap between physicians and nurses, insufficient resources for research, staff resistance or behaviors towards changing the practice, and inaccessibility of a group or team to coordinate the research ideas, were other reporting barriers to implementing the Evidence-Based Practices.

Participants highlighted the factors that can promote the evidence-based practice was develop core committee consisting of expert persons to discuss ideas for improvement, availability of trained researchers in the unit, Motivation, and support from the leaders to conduct research, training, and education for research and EBP, Promote more research studies from own facility, Monthly journal clubs and clinical teachings about recent findings and Evidence of clinical practices.

4. Discussion

The self-reporting from the questionnaire by the nurses shows that a lot of work is still needed to implement the EBP in the Hamad medical corporation in QATAR. More than 36.6% of respondents reported that they hardly ever sought the research that is not relevant to the Nurse's Practice. Some of the reasons given for not using research were the same as in many other studies [15] [16] [17].

Additionally, it was found that more than half of the respondents were not familiar with the term EBP. It is evident that there are many factors for this. Some of these, such as literature not being compiled in one place, insufficient time on the job to implement new ideas, and lack of support from administration and physicians, are problems that are common in many healthcare organizations.

In this study, major evidence-based barriers were found to be most often related to organizational factors. Insufficient time was reported as a significant barrier; hence attention needs to be given to techniques to improve nurses' time management. The finding is supported by other studies as well [17] [18] [19]. A reason for insufficient time on the job could be that most nursing practices are more conventional based rather than Evidence-based, resulting in the increased workload. However, it could also be due to poor time management.

The study identifies five main barriers to research utilization were insufficient time on the job to implement new ideas, not enough time to read the research, not enough authority to change patient care procedures, nurses being unaware of research, and not being able to understand the statistical analysis. The reported barriers are consistent with the other studies [20] [21] [22].

Unfamiliarity with statistical and research terminology could be a serious barrier for nurses with undergraduate Nurses who might not be sufficiently exposed to such terminologies. A well-designed training program may likely overcome these problems to some extent.

An apparent deficiency of many studies on this topic was inadequate coverage given to information-related competencies. As medical and health care literature is growing exponentially, all health care professionals, including nurses, need to acquire good searching skills to quickly retrieve current and accurate information. Inadequate search skills can result in missing crucial information or retrieving too much information that could cause information overload and anxiety [23].

There are many ways of increasing nurses' knowledge, including introducing in-service research classes and conducting professional development sessions during the overlapping time between Shifts, and providing a project day for clinical nurses whose major role in updating the clinical guidelines and procedures may ultimately increase interest in developing evidence-based care.

5. Recommendations

Support, encouragement, availability of the research staff in the unit, and recognition from the management and administration were the most frequent facilitators for research utilization. A reward system may be needed to help profile innovative practice development achievements in healthcare to support and encourage the evidence-based practitioners. Nurses' research values, skills, and awareness are important factors that need to be considered. Educators can help nurses develop a positive self-image by providing them with theory and practical experience that encourages more independent function and allows them a professional role to provide unique and essential services to the community.

Nursing managers under HMC should encourage the development of head nurses in the field of research and evidence-based Practice. In training programs in nursing, we should include more knowledge in research and evidence-based Practice. The future national vision of nursing development should clearly include research and EBP and be incorporated at all levels of hospital care.

6. Conclusion

The finding from this study confirms that there is a range of barriers of concern to nurses, and these are consistent with results that have been reported in previous research internationally. To enhance EBP strategies should be placed to minimize barriers and improve the facilitators of research utilization. However, the findings from this study highlight the need for professional nursing development in the country.

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Study Limitation

The study was conducted in one Critical Care Nurses and Clinical Nurse/Midwife Specialists in the Hamad Medical Corporation, thus limiting the generalis-

ability of findings in another category of nurses. However, the findings were like international studies cited. The questionnaire was self-reported and did not capture the actual practices related to EBP implementation.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Abbreviations

EBP, Evidence-Based Practice

CNS/CMS, Clinical Nurse/Midwife Specialists

HMC, Hamad Medical Corporation

NHS, National Health Services.

WWRC, Women's Wellness Research Center

Appendix

Questionnaire

Barriers to Evidence-Based Practice

We would like to know the extent to which you think each of the following situations is a barrier to nurses' use of research in to enhance their Practice.

If you currently hold a position in a clinical site, please answer the questions in relation to your current work settings. If you do not currently Practice, you may refer to your Last clinical Experience or provide your general perceptions.

For each item, circle the number of the response that best represents your view. Thank you for sharing your views with us.

Demographic Data

1. Age in completed years:

2. Gender:

Male ❑ Female ❑

3. Marital status:

❑ Single

❑ Married

❑ Divorced

❑ Widow

4. Position in HMC:

❑ Staff Nurse.

❑ Charge Nurse

❑ Head Nurse

❑ Clinical Nurse Specialist.

❑ Others---------------------

5. Years of Experience in Nursing Research:

❑ No experience

❑ less than 5

❑ 5 - 10

❑ 10 years above

6. What is your highest level of nursing education?

❑ Doctorate

❑ Master's degree

❑ Bachelor's degree

❑ Associate degree

❑ Diploma

I	Nurse Related Barrier	No Extent (0)	A little Extent (1)	Moderate Extent (2)	Great Extent (3)	No Opinion (4)
1	The Nurse does not have time to read the research					
2	The Nurse feels the benefits of changing Practice will be minimal.					
3	The Nurse is uncertain whether to believe the results of the research.					
4	The Nurse does not feel they have enough authority to change patient care procedures.					
5	The Nurse sees research results are little benefit for self					
6	The Nurse does not see the value of research for practice					
7	The Nurse is unwilling to change/try new ideas in practice					
8	The patient is not willing to accept the treatment or a procedure based on the quality research result					
II	**Research related barrier**					
9	Research Implications for Practice are not made clear.					
10	Statistical analyses are not understandable.					
11	The research is not relevant to the Nurse's Practice.					
12	The research has methodological inadequacies.					
13	The relevant literature is not compiled in one place.					
14	The conclusions drawn from the research are not justified to Practice					
15	The literature reports conflicting results					
16	The research is not reported clearly and readably.					
17	The amount of research information is overwhelming.					
18	The Nurse does not feel capable of evaluating the quality of the research					
19	The English Language is Used in research is difficult to understand					
III	**Organizational barriers**					
20	Research reports/articles are not readily available.					
21	The facilities are inadequate for the implementation of research result in Practice					
22	The Nurse feels results are not generalizable to own setting.					
23	The Nurse is isolated from knowledgeable colleagues with whom to discuss the research					
24	Physicians will not cooperate with the implementation of results in Practice					
25	There is not a documented need to change Practice.					
26	Another staff is not supportive of the implementation of study result					
27	There is insufficient time on the job to implement new ideas					
28	My Organization is less motivating nurses to use findings in nursing practice					

Continued

29	Inadequate facility to access up to date research resources (Library, Journals)
30	Training is not adequate by the Organization to use research findings in my clinical Practice
31	I don't have access to expert Nursing research Staff in the Organization.

32. Which of the above items do you feel are the *three most significant barriers* to Evidence-based Practices?

Greatest Barrier... Item #: _____

Second Greatest Barrier... Item #: _____

Third Greatest Barrier.. Item #: _____

33. What are the factors you think to *facilitate* Evidence-Based Practices?

_____

_____

_____

_____