

Knowledge and Practice of Midwives in Golestan Province, North of Iran: An Evidence-based Practice

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Abstract

Introduction: Given the role of evidence-based practice (EBP) in the improvement of patient care including midwifery care, the current study aimed at investigating knowledge and practice of midwives worked in health centers in terms of EBP in Golestan Province, North of Iran.

Methods: The current cross sectional study was conducted in Golestan Province, North of Iran in 2014. Of 389 midwives worked in family health centers of Golestan Province, 262 subjects were selected using census sampling method. Data collection tool was a self-report questionnaire consisted of three parts: 1) Demographic characteristics; 2) Participants's knowledge about EBP; 3) Participant's practice of EBP. Data were finally analyzed with SPSS version 16. P-value < 0.05 was considered as the level of significance.

Results: The mean score of the study subjects in knowledge and use of EBP were 13.2 ± 6.3 and 2.1 ± 1.2 , respectively. In other words, 90% of midwives got the score < 22. Significant relationships were found between knowledge and participants' age ($P = 0.001$), marital status ($P = 0.008$), and level of education ($P = 0.039$). Also, there was a significant relationship between use of EBP and type of recruitment ($P = 0.014$), workplace (urban or rural) ($P \leq 0.05$), and age ($P < 0.05$). According to Spearman test, there was a remarkable, linear relationship between knowledge and use of EBP ($r = 0.437$).

Conclusions: Knowledge and use of EBP in daily practice among midwives was poor. Given the role of EBP in the improvement of patient care, it is necessary to improve the level of knowledge and utilize EBP efficiently and effectively among healthcare workers using appropriate plans designed by health policymakers.

INTRODUCTION

Midwives are honored as one of the most important groups of health care providers [1], which play an essential role in different levels of health services from pregnancy prevention to rehabilitation [1, 2]. In recent decades, evidence-based practice (EBP) is taken into consideration in midwifery [3]. EBP helps health care providers to achieve the best scientific evidence, and consider clinical expertise and patient preferences, as well as make the most appropriate decision for patient care [4]. Despite the acceptance of EBP as a mean to enhance the quality of care, its implementation is not yet suitable [5]. A systemic scoping review by Ubbink et al., [5] showed inadequate knowledge and skills toward EBP among most doctors and nurses in different countries (median 64% and 70%, respectively). Lack of time, resources, training in EBP, management support, accessibility to evidence, the generalizability of evidence, and inexperience of doctors and nurses are among the barriers to use EBP in practice [5, 6]. According to the authors' best knowledge, regardless of numerous studies on EBP among different healthcare providers such as nurses [7-9] and doctors [10-15] in Iran, there are few studies about knowledge and practices of midwives as one of the key health care providers regarding EBP. Thus, the present study aimed at investigating knowledge and practices of midwives regarding EBP in Golestan Province, North of Iran.

METHODS

Study Design

The current cross sectional study was conducted in Golestan Province, North of Iran from March to August 2014.

Participants

The study population consisted of all midwives working at the family health units of health centers in Golestan Province. Owing to the point that midwifery is a multidimensional work based on the work place in hospitals and health centers, midwives in health centers are active in education and taking care of pregnant females, while they counterparts working in the hospitals mostly deal with therapeutic practices. Also, midwives working in health centers are as the first medical staff dealing with patients.

Hence, this group of midwives was selected as the study population. Inclusion criterion of the study was the midwives working in the family health units of health centers. Due to availability of samples and the accuracy of the results, census sampling method was utilized. Overall, from 389 midwives who worked at family health units, 262 were participated in the study.

Data Collection

Data were collected by a trained person. A self-report questionnaire, comprising three parts of demographic characteristics, knowledge about EBP (four main

questions), and practice of EBP (four main questions) was employed to collect data. Demographic characteristics of the participants were age, marital status, workplace, work experience, employment status, level of education, and internet accessibility at workplace. The second part of the questionnaire was designed to measure participants' knowledge about EBP with four main questions.

The first 3 questions were set up in Likert scale that scored from 0 to 4, and a total score of knowledge ranged 0 to 12. Question 4 of this section included 8 three-option Likert scale questions: "correct, incorrect, and I don't know", which were scored 0 to 2. Correct, incorrect, and "I don't know" answers were scored 2, 1, and 0, respectively. The total maximum score was 16. A total score of knowledge ranged 0 to 28 in three categories. Subjects who acquired < 50% (less than 14), 50% to 75% (15 to 21), and more than 75% (22 to 28) of total scores were placed respectively in poor, average and good classes. The third part of the questionnaire included four questions to assess the participant's use of EBP in practice.

The first question was about the participant's use of references to update their knowledge and they were given a score if they selected at least one of the options. The second question was about the use of valid websites that scored at least 1 when subjects used one of them. Two next questions consisted of two options (yes or no) scored 0 or 1.

The score of total practice for each subject ranged 0 to 4 in three categories. Individuals who got < 50% (0 and 1), 50% to 75% (2) and > 75% (3 and 4) of the scores were considered as poor, average and good, respectively. The questionnaire was developed based on the previous studies [15].

The face and content validity of the questionnaire were assessed by collecting the viewpoints of five experienced experts. Reliability of the questionnaire was 0.85 using test-retest methods.

Data Analysis

Data were analyzed using SPSS version 16. First, distribution of quantitative variables was investigated by the Kolmogorov-Smirnov test. Descriptive characteristics were reported as mean \pm standard deviation (SD).

Independent samples *t* test was used to compare the means of quantitative variables between the two groups. In the case of non-parametric distribution of data, quantitative values were reported as median and inter-quartile deviation; also, the Mann-Whitney U test was used to compare quantitative variables between the two groups. Chi-square test was utilized to compare qualitative variables between groups.

P-value < 0.05 was considered as the level of significance.

RESULTS

In total, 262 of 389 midwives were participated in the study. In other words, a response rate of 67.35% was achieved. The demographic characteristics of the midwives are shown in Table 1. The participants' age ranged 22 to 50 years with a mean of 34.54 and median of 34.00. Only, 40% of the participants had access to internet at their workplace. The mean score of knowledge was 13.2 ± 6.3 ; moreover, 56.1% (147) and 33.2% (87) of the respondents were classified in the poor and average categories, respectively. In other words, 90% of the midwives scored < 22 . Nevertheless, 10.7% (28) of respondents were classified in the good category. Table 2 shows understanding of technical term used in evidence-based midwifery care by midwives. The mean score of EBP use was 2.1 ± 1.2 ; for better understanding, 34.4% ($n = 90$) of the respondents were classified in the poor category; while, 48.9% ($n = 128$) and 16.8% ($n = 44$) in average and good categories, respectively.

Table 1: The Demographic Characteristics of the Midwives

Variable	N (%)
Workplace	
Urban	114 (44.5)
Rural	142 (55.5)
Type of recruitment	
fixed-income	63 (24.2)
conventional	159 (61.2)
contractual	18 (6.9)
projective and other	20 (7.7)
Marital status	
Married	226 (86.6)
Single	36 (13.4)
Work experience, yr	
1	14 (5.3)
2	13 (5.0)
3	19 (7.3)
4 and above	213 (81.3)
Level of education	
Associate's degree	48 (18.3)
bachelor and above	214 (81.7)

Table 2: Understanding of Technical Terms used in EBM among Midwives

Term	Right	Wrong	Do Not Know
Sensitivity	52.3%	18.7%	29.0%
Specificity	35.9%	14.5%	49.6%
Prevalence	48.5%	11.5%	40.1%
Case-control study	68.7%	7.3%	24.0%
Cohort study	50%	11.1%	38.9%
Meta-analysis	47.7%	5.0%	47.3%
Odds ratio	10.7%	7.6%	81.7%
Likelihood ratio	24.8%	4.6%	70.6%

According to Spearman test, a significant linear relationship was found between knowledge and use of evidence-based midwifery care ($r = 0.437$).

Findings of the current study indicated that knowledge and use of EBP were higher in midwives worked at rural health centers compared their counterparts in urban centers; although the difference was not significant ($P = 0.33$); however, use of EBP was significant ($P \leq 0.05$) (Table 3).

The mean level of knowledge and use of EBP in midwives with work experience ≤ 3 years was higher than those with work experience ≥ 4 years, although the difference was not significant ($P > 0.05$) (Table 3).

According to the findings of the current study, there was a statistically significant difference between the use of EBP and type of recruitment ($P=0.014$).

Midwives with temporary employment had the highest average score (136.7) (Table 3).

There was a positive and poor correlation between knowledge and age of midwives ($P = 0.001$); There was also a correlation between the use of EBP and age of the participants ($P < 0.05$), although the correlation was negative and poor. Therefore, although the average rate of knowledge was increased with age, the use of evidence-based midwifery care was reduced (Table 4).

Table 3: Correlations between Demographic Characteristics and Knowledge and Practice of Midwives at Health Centers Regarding EBP

Variable	Knowledge		Practice	
	Frequency	P-value	Frequency	P-value
Marital status	261	0.008*	261	0.15*
Level of education	261	0.03*	261	0.49*
Type of recruitment	260	0.15**	260	0.01**
Workplace	256	0.33*	256	0.004*

* The Mann-Whitney U test

** The Kruskal-Wallis test

Table 4: Relationship between Age, and Knowledge and Practice of Midwives at Health Centers regarding EBP

Variable	Age		
	Frequency	Correlation Coefficient	P-value
Knowledge	262	0.232	0.0001
Use of EBP	262	-0.232	0.0001

There was a significant relationship between knowledge and marital status in the study subjects ($P = 0.008$); in other words, the average rate of knowledge about EBP in the single subjects was higher than the married ones. There was no significant relationship between the use of EBP and marital status in the midwives ($P > 0.05$) (Table 3). According to the results of the Mann-

Whitney U test, a significant difference was found between knowledge and midwives' level of education ($P = 0.039$); in other words, midwives with an associate degree had higher knowledge than their counterparts with other educational levels. Subjects holding bachelor or higher degrees were more likely to use EBP, although the difference was not significant ($P > 0.05$) (Table 3).

DISCUSSION

The current study was the first study on EBP in primary health care among midwives worked at family health units of Golestan Province, North of Iran. The present study findings indicated that the knowledge of midwives about EBP in the studied region was low that was in line with those released by a study conducted in Pakistan indicating that majority of trainee midwives in third level hospitals (60%) had no knowledge about evidence-based care [16]. But, the current study results were not in agreement with those of a study indicated that the level of knowledge among midwives was slightly higher than average [17]. The present study reported that midwives of primary health system were unaware of technical terms used in EBP that is similar to the results of studies conducted on nurses in Iran [9, 18], Singapore [19], and the United States [20]. This finding may be caused by the fact that there is no course of EBP in the Iranian midwifery curriculum, and it is only presented as a workshop that might not be attended by all midwives. Given the mean score of EBP use (2.1 ± 1.2), most of the midwives in the current study had a low and moderate performance score that was similar to those of several studies on nurses [21, 22] and midwives [17] in Iran. The results of the study indicated a significant, linear relationship between knowledge and use of evidence-based care that was consistent with those of a study conducted on nurses and midwives [21]. Based on this finding, increased knowledge of midwives regarding EBP results in more EBP use. The study findings showed that rural regions midwives used EBP more than the urban regions ones. This may be due to the fact that health system is more active in rural regions in Iran [23] and midwives need to use more resources and databases to enhance the quality of healthcare provided for their covered population.

In the current study, a negative relationship was observed between work experience with knowledge and skills in EBP. This finding is associated with a survey of nurses and midwives implemented in Iran [21] and not similar to a study in East of Iran that found no relationship between work experience of midwives and their knowledge about EBP [17]. The result suggests that midwives with higher work experience may need interventions, particularly the educational interventions, in order to boost motivation to learn and use EBP. In addition, findings of the study showed a significant relationship between the use of EBP and employment status; midwives with temporary employment were more likely to use EBP than the ones

with permanent employment. This might be due to the fact that people with temporary employment use EBP more in their practices as they want to be employed permanently and it is the way to demonstrate their capabilities. In the current study, midwives with the associate degree had higher level of knowledge. Despite more use of EBP among midwives with bachelor or higher degrees, the difference in this regard was not statistically significant. This result was in accordance with a study conducted in Iran [18] and inconsistent with the results released by other studies [17, 24] indicating more frequently use of EBP among healthcare staff with higher educations. Findings showed the direct correlation between the increase of knowledge and age increase, although the relationship was adverse regarding the use of evidence-based midwifery care and age increase. This is not in agreement with other studies, which found no relationship between age and knowledge about EBP among nurses [9, 17]. The reason for different results can be attributed to different populations in the studies. Also, nursing and midwifery are naturally different. Lack of accessibility to internet at workplace was reported as one of the most important barriers to implement EBP [8]. In the current study, only 40% of midwives had access to internet at their workplace; while, in a study conducted in the West of Iran, 87.2% of physicians had access to internet [15]. According to the national program regarding logging and expansion of electronic health records in primary care, in the near future, the accessibility is enhanced. The current study also had certain limitations. First, the study was conducted only on midwives worked at family health units; therefore, findings can not to be generalized to public and private hospitals. Second, a self-report questionnaire may lead to information biases. In spite of the aforementioned limitations, one of the strengths of the study was the large sample size in such an extent that all midwives worked at health centers were studied with a response rate of 67.35%. Also, midwives worked at rural areas were also studied. According to the current study findings, policymakers should provide all necessary infrastructures for EBP use such as training research methodologies and research critique, medical statistics, EBP, and providing information technology structures to all health centers. In addition, they should also meet the needs and commitments for the use of EBP by health system workers, especially midwives, through implementing effective interventions.

CONCLUSIONS

Knowledge and use of EBP in daily practice of midwives were poor. Given the role of EBP in the improvement of patient care quality, it is necessary to enhance the level of knowledge and utilize EBP efficiently and effectively among healthcare workers using appropriate plans by healthcare policymakers.

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Ethical Considerations

The study protocol was approved by Golestan University of Medical Sciences (code: 921017183). Informed consent was obtained from samples. Also, Participants were informed about the study aims and design, confidentiality of information, and choice to withdraw from the study.

Author's Contribution

Farideh Kouchak, Maryam Eri and Mansoor Khojamli: Developing the original idea, literature review and Interpreting data Mansoor Khojamli, Marzieh Gorzin and Samieh Ghana: Data collection Maryam Eri and Farideh Kouchak: Drafting the manuscript all authors: Revising and approving the manuscript.

Conflict of Interest

The authors declare no conflicts of Interest.

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REFERENCES

- Organization WH. WHO nursing and midwifery progress report 2008-2012 Geneva: WHO; 2013. Available from: http://www.who.int/hrh/nursing_midwifery/NursingMidwiferyProgressReport.pdf.
- Organization WH. The world health report 2008: primary health care now more than ever. Geneva: WHO, 2015.
- Bayes S, Fenwick J, Jennings D. Readiness for practice change: Evaluation of a tool for the Australian midwifery context. *Women Birth*. 2016;29(3):240-4. doi: 10.1016/j.wombi.2015.11.001 pmid: 26610655
- Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. *BMJ*. 1996;312(7023):71-2. pmid: 8555924
- Ubbink DT, Guyatt GH, Vermeulen H. Framework of policy recommendations for implementation of evidence-based practice: a systematic scoping review. *BMJ Open*. 2013;3(1):e001881. doi: 10.1136/bmjopen-2012-001881 pmid: 23355664
- Kajermo KN, Bostrom AM, Thompson DS, Hutchinson AM, Estabrooks CA, Wallin L. The BARRIERS scale -- the barriers to research utilization scale: A systematic review. *Implement Sci*. 2010;5(1):32. doi: 10.1186/1748-5908-5-32 pmid: 20420696
- Farokhzadian J, Khajouei R, Ahmadian L. Information seeking and retrieval skills of nurses: Nurses readiness for evidence based practice in hospitals of a medical university in Iran. *Int J Med Inform*. 2015;84(8):570-7. doi: 10.1016/j.ijmedinf.2015.03.008 pmid: 25936728
- Khammarnia M, Haj Mohammadi M, Amani Z, Rezaeian S, Setoodehzadeh F. Barriers to implementation of evidence based practice in zahedan teaching hospitals, iran, 2014. *Nurs Res Pract*. 2015;2015:357140. doi: 10.1155/2015/357140 pmid: 25866675
- Mehrdad N, Joolae S, Joulaee A, Bahrani N. Nursing faculties' knowledge and attitude on evidence-based practice. *Iran J Nurs Midwifery Res*. 2012;17(7):506-11. pmid: 23922597
- Safari Y. Clarifying Evidence-Based Medicine in Educational and Therapeutic Experiences of Clinical Faculty Members: A Qualitative Study in Iran. *Glob J Health Sci*. 2015;7(7 Spec No):62-8. doi: 10.5539/gjhs.v7n7p62 pmid: 26153205
- Taheri H, Mirmohamadsadeghi M, Adibi I, Ashorion V, Sadeghizade A, Adibi P. Evidence-based medicine (EBM) for undergraduate medical students. *Ann Acad Med Singapore*. 2008;37(9):764-8. pmid: 18989493
- Ahmadi-Abhari S, Soltani A, Hosseinpanah F. Knowledge and attitudes of trainee physicians regarding evidence-based medicine: a questionnaire survey in Tehran, Iran. *J Eval Clin Pract*. 2008;14(5):775-9. doi: 10.1111/j.1365-2753.2008.01073.x pmid: 19018910
- Mozafarpour S, Sadeghizadeh A, Kabiri P, Taheri H, Attaei M, Khalighinezhad N. Evidence-based medical practice in developing countries: the case study of Iran. *J Eval Clin Pract*. 2011;17(4):651-6. doi: 10.1111/j.1365-2753.2011.01642.x pmid: 21276143
- Valizadeh R, Rashidbeygi M, Shirbeigi E, Sayehmiri K. Attitudes of Physicians Towards Barriers to Evidence-Based Medicine in Ilam, Iran. *Thrita*. 2015;4(1).
- Rashidbeygi M, Sayehmiri K. Knowledge and attitudes of physicians towards evidence based medicine in ilam, iran. *Iran Red Crescent Med J*. 2013;15(9):798-803. doi: 10.5812/ircmj.7204 pmid: 24616789
- Kouser S, Younis S, Saeed S, Tabassum Z. Attitude of Obstetricians towards Evidence-based Practice. *SAFOG* 2010;2(3):203-6.
- Azmoude E, Farkhondeh F, Ahour M, Kabirian M. Knowledge, Practice and Self-Efficacy in Evidence-Based Practice among Midwives in East Iran. *Sultan Qaboos Univ Med J*. 2017;17(1):e66-e73. doi: 10.18295/squmj.2016.17.01.012 pmid: 28417031
- Farokhzadian J, Khajouei R, Ahmadian L. Evaluating factors associated with implementing evidence-based practice in nursing. *J Eval Clin Pract*. 2015;21(6):1107-13. doi: 10.1111/jep.12480 pmid: 26563564
- Mokhtar IA, Majid S, Foo S, Zhang X, Theng YL, Chang YK, et al. Evidence-based practice and related information literacy skills of nurses in Singapore: an exploratory case study. *Health Informatics J*. 2012;18(1):12-25. doi: 10.1177/1460458211434753 pmid: 22447874
- Pravikoff D, Tanner A, Pierce ST. Readiness of U.S. nurses for evidence-based practice: many don't understand or value research and have had little or no training to help them find evidence on which to base their practice. *Am J Nurs*. 2005;105(9):40-51.
- Heydari A, Mazlom SR, Ranjbar H, Scurlock-Evans L. A study of Iranian nurses' and midwives' knowledge, attitudes, and implementation of evidence-based practice: the time for change has arrived. *Worldviews Evid Based Nurs*. 2014;11(5):325-31. doi: 10.1111/wvn.12052 pmid: 25100032
- Adib-Hajbaghery M. Factors facilitating and inhibiting evidence-based nursing in Iran. *J Adv Nurs*. 2007;58(6):566-75. doi: 10.1111/j.1365-2648.2007.04253.x pmid: 17442028
- Lankarani KB, Alavian SM, Peymani P. Health in the Islamic Republic of Iran, challenges and progresses. *Med J Islam Repub Iran*. 2013;27(1):42-9. pmid: 23479501
- Weng YH, Kuo KN, Yang CY, Lo HL, Chen C, Chiu YW. Implementation of evidence-based practice across medical, nursing, pharmacological and allied healthcare professionals: a questionnaire survey in nationwide hospital settings. *Implement Sci*. 2013;8(1):112. doi: 10.1186/1748-5908-8-112 pmid: 24063756

