

Barriers to and Facilitators of Research Utilization among Iranian Nurses: a Literature Review

Abbas Heydari¹, Amir Emami Zeydi^{2*}

¹Evidence- Based Caring Research Center, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

²Student Research Committee, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

ARTICLE INFO

Article Type:
Review Article

Article History:
Received: 5 Aug. 2014
Accepted: 25 Oct. 2014
ePublished: 1 Dec. 2014

Keywords:
Research
Research utilization
Nurses
Iran
Review

ABSTRACT

Introduction: Research utilization (RU), is an important strategy to promote the quality of patient care. The aim of this study was to present a comprehensive literature review describing barriers and facilitators of RU among Iranian nurses.

Methods: Literature review was undertaken using the international databases including Pub Med/Medline, Scopus, Science Direct, and Google Scholar. Also, Persian electronic databases such as Magiran, SID and Iran Medex were searched up to May 2014. The search was limited to articles in the English and Persian languages that evaluate the barriers or facilitators of RU among Iranian nurses.

Results: A total of 11 articles were in the final dataset. The most important barriers to RU among Iranian nurses were related to the organization factors such as inadequate facilities; insufficient time on the job, lack of authority, physician cooperation, and administrative support. The most frequent facilitators of RU were education in enhancing nurses knowledge and skills in research evaluation, support from knowledgeable nursing colleagues and nursing faculty in the clinical setting, access to an expert committee for clinical appraisal, improving skills in English language and searching for articles, sufficient economic resources to carry out research, and having access to more facilities such as internet.

Conclusion: Iranian nurses encounter with the same difficulties as to other countries regarding RU; while setting related barriers were the predominant obstacles to RU among them. Therefore, health managers are expected to plan appropriate strategies to smooth the progress of RU by nurses in their practice.

Introduction

Increasing public expectation on high quality health care forces nursing as a practice discipline to utilize evidence-based practice (EBP) to promote the quality of outcomes in health care systems.^{1,2} EBP is a method of problem solving which includes recognizing the clinical problem, running a literature search, appraising the research evidences and deciding on the intervention(s). The main purpose of nursing research is to validate and refine current knowledge and developing new knowledge in order to provide a base for EBP in nursing.^{2,4} RU is a term that was used since the early 1970s, predominantly by the nursing profession, to describe the

integration of research evidence into daily clinical practice and refers to "process by which specific research-based knowledge (science) is applied in practice". This is a strategy to promote EBP in nursing^{2,5,6} and incorporates into the professional standards of nursing discipline.⁷ There is a growing body of nursing research which potentially helps them to improve the quality of nursing care. Nurses are expected to make the use of the best research evidence for enhancing quality of patient care and outcomes.

Applying research evidence to daily clinical practice may not only enhance the quality of nursing care, but also can lead to enhanced nurses' personal and professional performance.^{1,8}

* Corresponding Author: Amir Emami Zeydi (MSc). E-mail: emamizeydi@yahoo.com.

Also, according to code of ethics, nurses are obliged to improve nursing care by applying research findings in the clinical practice.⁸ Despite increasing availability of research findings and broad consensus on the importance of its benefits in nursing discipline, using them in nursing practice remains, at best, slow and arbitrary. This "gap between research and practice" is a worldwide phenomenon. So that, the patients often do not receive nursing care with acceptable quality. Therefore, it seems to be a priority to adopt modalities for increasing research use by nurses.⁶⁻⁹ To achieve this, identifying barriers to, as well as facilitators of RU, would be a key strategy.⁸

In recent years considerable efforts have been made to identify facilitators and barriers of RU among nurses in different countries.

However, there are great differences between nurses in diverse Western and Asian countries in terms of the organizational climate and cultural context.¹ More than 70,000 nurses have been employed in Iranian hospitals. In Iran, nursing is the largest healthcare profession which is directly responsible for the care of their patients.¹⁰⁻¹¹

At present; Iranian nurses are being criticized for their poor quality of patient care. Healthcare systems advocate that nursing practice should be conducted based on international standards to improve the quality of patient care.¹² Although it has been previously known that the use of research-based knowledge is necessary in improving clinical practice¹, still RU is a new paradigm in Iranian nursing community, and the profession still has a long way to undertake research affecting practice. In most Middle East countries including Iran, some forces requiring health care to be scientific based, providing high quality, patient-centered care, and cost issues.¹² On the other hand, there has been an increasing trend in published studies towards identifying perceived barriers and facilitators of RU by Iranian nurses in different regions of the country and

results have been somewhat inconsistent due to possible diverse sub-cultural context.¹²⁻²²

The above mentioned reasons about importance of RU in nursing profession and its potential consequences for improvement of nursing care quality as well as an increasing trend in published studies in this regard with somewhat inconsistent results in Iran encouraged us for this review. The aim of the current study was to present a comprehensive review of the literatures describing barriers and facilitators of RU among Iranian nurses and identifying strategies to enhance the RU by nurses within the Iranian healthcare system context.

Materials and methods

A systematic search of the relevant literature were performed within international databases including Pub Med/Medline, Scopus, Science Direct as well as Google Scholar using the following search terms or their combinations: "research utilization", "research utilisation", "use of research", "transfer of research", "utilization of research", "utilisation of research", "research transfer", "nursing", "nurse" and "Iran".

Keywords related to RU were identified prior to initiating the search. These keywords equivalents in Farsi were searched in Persian electronic databases such as Iranian Journal Database (Magiran), Scientific Information Databases (SID) and Iran Medex (Iranian Biomedical Journal Database). In addition, a hand search of article references was done to ensure completeness of the search. Due to the differences between meanings of EBP and RU (EBP is a broader concept which can incorporate forms of knowledge other than research) we decided to exclude the term "evidence-based practice" from the search strategy.

The search was limited to the English and Persian languages. Without any time limit, all articles having the selected keywords in the title, abstract and text, including quantitative as well as qualitative approaches in Iranian

context, up to May 2014 were included and evaluated. The articles had to be focused on the barriers or facilitators of RU among Iranian nurses as inclusion criteria. We did not actively search the gray literature to find studies not in the peer-reviewed literature and excluded studies published exclusively in abstract form (e.g., conference proceedings), because they are not typically peer reviewed, and only partially report results which may change

substantially when fully published.

The search strategy generated 1736 titles and abstracts. After initial screening and evaluation, 1679 articles were rejected and 57 articles were identified as potentially eligible for the review. These articles were retrieved for full text review. Removing duplicates and using secondary screening resulted in 10 articles to be included for the review. Also, a manual search of article references added a further one paper. In total, 11 articles were eligible for inclusion (Figure 1).

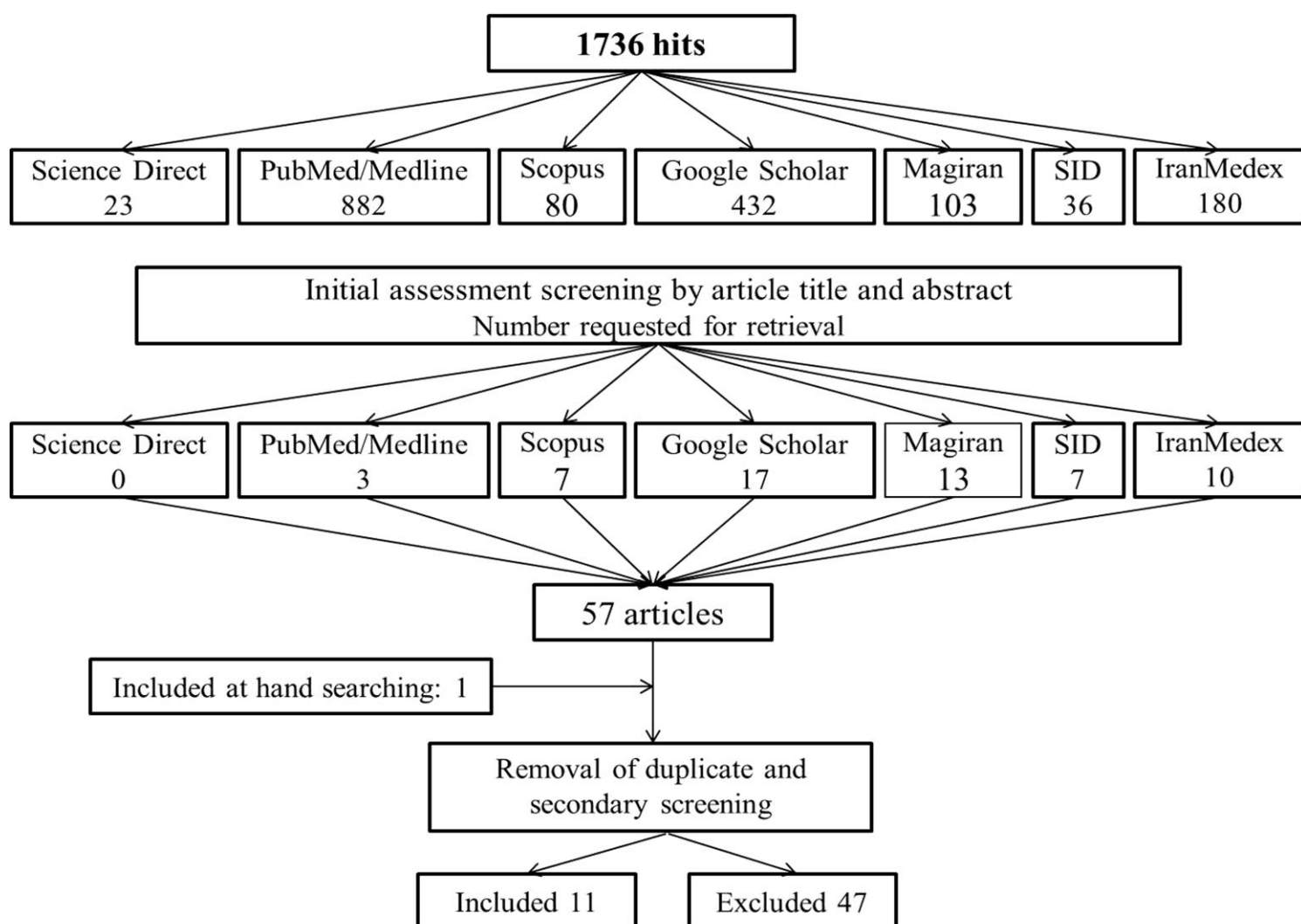


Figure 1. Literature search and retrieval flow diagram

Results

This review included 11 studies, which 10 studies of it were quantitative, mostly cross-sectional design, and one had qualitative approach (Table1). All articles consisted of this review had been published between 2002 and 2014 and originated from peer-reviewed journals.

The first study was conducted in Tabriz University of Medical Sciences. Three of these studies were conducted in the Tehran University of Medical Sciences affiliated hospitals and one study conducted on nurses in all over the country (Iran).

The majority of papers used the modified version of Funk's barriers scale (BARRIERS scale). The main barriers reported in the most papers were related to the setting (organization) factor which includes: "The facilities are inadequate for implementation", "There is insufficient time on the job to implement new ideas", "The nurse does not feel she/he has enough authority to change patient care procedures", "Physicians will not cooperate with implementation", "Administration will not allow implementation" and "The nurse does not have time to read research". Other reported barriers to RU were related to the research and presentation factors, including: "Research reports/articles are not published fast enough", "The nurse is uncertain whether to believe the results of the research", "The conclusions drawn from the research are not justified", and "Research reports/articles are written in English".

Discussion

There is a growing body of research literature that focuses on the barriers to and facilitators of RU among nurses. The results of the present review showed that organization-related factors were the major reported obstacles to RU among Iranian nurses.

Similar results have been found by several studies conducted among nurses in different countries. A study by Buhaid *et al.*, have shown that organizational barriers such as inadequate facilities, lack of authority to

change practice, and lack of time to implement new ideas were the top three perceived barriers by Bahraini nurses.²³

This has considerable consistency with the reported barriers by Iranian nurses. Wang *et al.*, described the perception of barriers to and facilitators of RU by nurses in China and demonstrated that barriers related to the setting, such as lack of authority and lack of time, were more influential than other barriers.²⁴ Also other studies in China showed that organizational factors such as insufficient time on the job, inadequate facilities, lack of authority, and lack of cooperation of physicians, were perceived by nurses as major barriers to RU in their practice.^{1,25} Similar results were observed among nurses in USA.²⁶ In addition, Yava *et al.*, noted that inadequate authority, lack of time, and insufficient facilities were first three important barriers perceived by Turkish nurses. ²It should be mentioned that in most studies, BARRIERS Scale was used to evaluate the obstacles of RU among nurses.

This scale developed by Funck *et al.*, to identify perceptions of barriers to the use of research findings in practice, consisting of four subscales: nurse, setting (organization), research, and presentation.²⁷

Inadequate facilities perceived as the most important barriers by nurses all over the world, including Iran. Studies conducted in Sweden, Australia, Turkey and UK, have been shown similar results.²⁸⁻³¹ One possible explanation for this is the lack of routine availability of equipment and facilities needed to be used in research projects in clinical settings, leading to limited utilization of research findings in everyday work.

Generally, the Iranian national health system, particularly nursing care system, is not RU facilitating environments. Therefore, the healthcare organizations which provide facilities to accommodate a higher level of RU have great importance.¹⁶ Lack of the authority to make changes in working practice were another major barrier to RU among nurses in Iran and other countries.

Table 1. Summary of the basic features of the research articles that were included in the review. RU= research utilization

Author & Year	Objective	Method and Data Collection	Sample & Setting	Key Findings
Valizadeh L et al., ¹³ 2002	Evaluate barriers and facilitators of RU among nurses working in teaching hospitals in Tabriz, 2001.	Descriptive study. Using the modified Funk's barriers scale. (1 item added through content validity)	304 nurses who had at least two year of clinical work experience and working in one of the twelve's teaching hospitals of Tabriz University of Medical Sciences, were selected by systematic random sampling.	Three major barriers reported on RU were: 1-inadequate facilities for implementation, 2- Physicians will not cooperate with implementation and 3- the nurses do not have sufficient time to read researches. Facilitators which nurses suggested emphasized on the role of education in enhancing their knowledge and skills of research evaluation.
Salemi et al., ¹⁴ 2006	Identify barriers of RU in Iranian clinical nurses' practice.	Cross-sectional study. Using the Funk's barriers scale.	780 clinical nurses, with at least one year of clinical work experience who were working in one of the governmental- educational, governmental- non educational or private hospitals in all over the country (Iran) were selected. Sending and collecting the questionnaires to the hospitals were conducted by coordination of Iranian nursing organization.	Three main barriers to RU were identified: 1- "the nurse does not have time to read research", 2- "the nurse does not feel she/he has enough authority to change patient care procedures" and 3- "the facilities are inadequate for implementation".
Valizadeh F et al., ¹⁵ 2006	Identify barriers of RU from the point of view of nurses working in Khorram-Abad educational hospitals.	Descriptive-analytical study. Using the Funk's barriers scale.	94 nurses with BSc degree, who worked in Khorram-Abad educational hospitals, were selected through a simple random sampling.	The most important barriers were includes: inadequate facilities for implementation, lack of cooperation of managers, do not have sufficient time to read research articles, lack of familiarity of nurses with research methodology and inaccessibility to the colleagues who were familiar with research methods to consult with them.
Mehrdad N et al., ¹⁶ 2008	Identification of barriers to and facilitators of RU in nursing practice.	Descriptive design, using modified version of Funk's barriers scale	410 nurses from 15 educational hospitals and nursing schools affiliated to Tehran University of Medical Sciences (375 clinical nurse and 35 nursing educators). Clinical nurses were selected using stratified sampling. The nursing educators that participated in this study (35) were from the total of educators that eligible (50). Clinical nurses that participated in this study worked in all wards of the hospitals, although the majority works in surgical wards.	The major barriers of RU were that the nurses do not have time to read research; inadequate facilities for implementation; nurses' lack of authority to change patient care procedures. Facilitators of RU were categorized into two main groups of human resources and individual/organizational factors including: support from knowledgeable nursing colleagues and nursing faculty in the clinical setting, opportunity and time to attend nursing conference in Iran and overseas, accessibility to an expert committee for clinical appraisal, training and education in research, possessing skills in English language and searching for articles, sufficient allocated economic resources for carrying out research, having access to more facilities such as internet, and motivation.

Table 1. (Continued) Summary of the basic features of the research articles that were included in the review. RU= research utilization

Author & Year	Objective	Method and Data Collection	Sample & Setting	Key Findings
Salsali M et al.,¹² 2009	Identify practicing nurses' view of aspects which they perceived constrain them from RU that summarizes and uses research findings to address a nursing practice problem.	A qualitative approach has been used. Data were collected through face-to-face interviews follow by one focus group during six months. Analysis was undertaken using a qualitative content analysis.	The semi-structured interviews were conducted with fifteen male and female staff nurses, with at least one year of nursing experience and the minimum of a BSc degree, which worked full-time, and provided nursing care in different wards of large general and specialty hospitals covered by Tehran University of Medical Sciences. The focus group was held by seven other participants from same hospitals in the clinical ward.	Findings revealed some key themes perceived by nurses to restrict them to use research findings: level of support require to be research active, to be research minded, the extent of nurses knowledge and skills about research and RU, level of educational preparation relating to using research, administration and executive challenges in clinical setting and theory-practice gap.
Mehrdad N et al.,¹⁷ 2009	Assess the extent of RU in nursing clinical practice in Tehran, Iran.	Cross-sectional study. Using a researcher-generated questionnaire.	375 clinical nurses at hospitals affiliated to Tehran University of Medical Sciences which had at least one year of work experience were selected through a multi stage stratified sampling method.	Findings revealed that the RU in 66.9% of the nurses was low. There was a significant relationship between the extent of RU and the level of education, professional condition, clinical setting, research activities, work shift, job satisfaction and English language skills.
Amini K et al.,¹⁸ 2011	Describe registered nurses perceptions of barriers to utilization of research results at teaching hospitals affiliated to Zanjan University of Medical Sciences.	Cross-sectional study. Using the Funk's barriers scale.	170 nurses who employed and worked in teaching hospitals affiliated to Zanjan University of Medical Sciences thorough simple random sampling.	The first three important barriers were insufficient facilities for implementation (65.3%), lack of time to read research results (64.7%), and insufficient time on the job to implement new ideas (62.4%).
Shayesteh fard M et al.,¹⁹ 2011	Identify nurses' opinion regarding barriers and facilitators in the utilization of research finding in clinical practice in Abadan and Khorramshahr hospitals.	Descriptive cross-sectional study. Using a researcher-generated questionnaire included three parts of demographic data, barriers to clinical utilization of research findings (modified version of Funk's barriers scale) and factors facilitating the application of research results in clinical settings.	100 nurses of all Abadan and Khoramshahr hospitals that had at least one year work experience and BSc degree were selected through the census method.	Top three barriers to apply research findings in clinical practice were shortage of facilities for utilization of research results, insufficient time on the job to implement new ideas and lack of close cooperation between university and hospital. Conducting in-service training courses on new research findings, training nurses for further information on research methodology and equipping hospital library with a variety of journals and internet access were determined as the most important facilitators.

Table 1. (Continued) Summary of the basic features of the research articles that were included in the review. RU= research utilization

Author & Year	Objective	Method and Data Collection	Sample & Setting	Key Findings
Latifi S et al., ²⁰ 2012	Identifying the barriers to utilization of research findings in clinical practice from clinical nurses' perspective working in hospitals affiliated to Babol University of Medical Sciences.	A cross-sectional study was carried out. A questionnaire containing two sections was used in which the first part of questionnaire was scientific and professional knowledge of subjects and the other part was extracted from Funk's barriers scale.	313 nurses with at least two years of working experiences in three major hospitals of Babol University of Medical Sciences in 2011 using the census method.	Important barriers included insufficient time to study for implementing new ideas, lack of timely and fast publication of research papers and lack of physicians' collaborations in implementing the results of nursing researches. Also, low trust of nurses to research findings, unjustified conclusions drawn from researches, conflicting results and English publication of most studies were other barriers.
Amini K et al., ²¹ 2012	Identify barriers of RU from the point of view of nurses working in critical care units in hospitals affiliated to Zanjan University of Medical Sciences.	Descriptive- analytical study. Using the Funk's barriers scale.	64 graduate nurses employed in critical care units of Zanjanteaching Hospitals using simple random sampling.	The first main barriers to RU identified by the respondents were: "Insufficient facilities", "Lack of time to read research" and "Insufficient time on the job to implement new ideas".
Orujlu S et al., ²² 2014	Identify barriers to the use of research in clinical practice by nurses in hospitals of Urmia University of Medical Sciences.	Descriptive-analytical study. Using the Funk's barriers scale.	All nurses, with at least one year work experiences, which affiliated to Urmia University of Medical Sciences (1000 nurses) in 2013 were evaluated using convenience sampling.	The mean total score on the questionnaire barriers to use research findings in clinical practice was $56/57 \pm 7/05$ from 120. Average score for barriers related to the organization was the highest among other factors. Also factors related to the quality of researches', the presentation of results and factors related to nurse practitioners were other issues, respectively.

This lack of authority may be caused by the traditional hierarchical structure in hospitals.²⁸ In the hierarchical top-down managerial system in Iranian health care system, managers and doctors have authority roles and expect nurses to do just their orders. Therefore, nurses' authority and independence are undermined.^{2,24} Lack of time to implement new ideas or reading research papers, was another perceived barrier by Iranian nurses which is consistent with the results of the studies in other countries such as Turkey,² Korea,⁷ Bahrain,²³ China^{1, 24} Hong Kong,²⁵ United Kingdom,^{29, 32} Australia,³⁰ and Ireland.³³ Also, nursing shortage is a serious issue in many Asian countries such as Iran; and nurses are practicing under an overwhelming workload. Therefore, nurses do not have enough time to study articles, to apply research evidence into practice, and to contribute in research activities.^{1, 16}

'Physicians will not cooperate with implementation' was recognized as an additional barrier for RU among Iranian nurses which is in line with the results of studies by Hutchinson et al., in Australia,³⁴ and Chau et al., in Hong Kong.²⁵ In Iranian health care system, nursing services remained sub-ordinate of doctors for many years. Also, lack of nurses' familiarity with research methodology, as well as the fact that most of doctors and nurses do not believe research is a nursing responsibility, has led to poor cooperation between doctors and nurses to implement research findings into practice.³¹

Moreover, since almost 20 years ago, it has been demonstrated that support from the nursing managers positively correlated with nurses' use of research in their practice. Also, results from previous studies showed a positive significant association between the perceived organizational support by nurses and their use of research in practice.^{35,36}

Whereas, nurses believe that organizational support has not been established adequately, and their individual

efforts are not enough to change nursing practices. Hence, organization and managerial support (i.e. establishing centers for research and evidence-based practice, clearly defined guidelines for research implementation and utilization in clinical practice) is a major solution in promoting of research application by nurses.² Moreover, nurse managers need to find strategies for supporting nurses' professional development and possibilities to promote RU.⁸ The results of our review showed that the use of English as a dominant language of journals was another perceived obstacles in RU by Iranian nurses, which is concordant with the results of similar studies in other non-English language countries.^{2,24,37} Most of the high-quality nursing studies have been published in English language journals, while most of Iranian nurses' proficiency in English language is relatively low. This fact highlights the substantial need for support of nurses to develop their English language skills.

Positive attitude toward research is an individual determinant of RU by nurses.³⁸ A study by Mehrdad et al., showed that most of Iranian nurses had positive attitudes toward research, and those who had positive attitudes were more involved in research activities;³⁹ which is consistent with the findings of studies by Parahoo et al.,⁴⁰ and Hundley et al.,⁴¹ However it has been stated that nurses in Iran and Western countries believe that research outputs are not relevant to their everyday care. It will be a challenge to move from perception of "research is not relevant to the everyday work in nursing" to recognition that "the right research is relevant, empowering, and appropriate for the everyday work in nursing."⁴²

Similar to results of our review regarding the facilitators of RU among Iranian nurses, Veeramah⁴³ and Hutchinson et al.,³⁴ have been stated that nurses perceive educational support as the most important facilitators for RU are respectively in England and Australia. It seems that nurses need to be

trained before and after graduation for research methods, statistics, and EBP to ensure that they have necessary abilities to critically evaluate articles, as well as conducting literature reviews to improve clinical practice. Also, designing mentorship programs focused on linking researchers and nurses in hospitals may be an important strategy to diminish the theory-practice gap in nursing. On the other hand, establishing Research & Development centers in hospitals to evaluate nursing research for its usage in the clinical practice, as well as providing consultation and support regarding research methods and statistical procedures for nurses would be another useful strategy. Also, allocation of time and having access to services such as Internet may facilitate RU by Iranian nurses.

This review has some limitations. The quality of included papers was not assessed. This was due to the limited number of relevant papers. Another potential limitation is that we did not search the gray literature to find studies not in the peer-reviewed journals. Although we identified all papers that met our inclusion criteria, unpublished studies may be missed.

However, our electronic search was extensive and complemented by hand-searches, so that the saturation was achieved.

Conclusion

In conclusion, the results of our review indicate that Iranian nurses' encounter with the same difficulties as to other countries regarding RU; while setting related barriers were among the predominant obstacles to RU. Also considering the most perceived facilitators of RU by Iranian nurses, it seems that interventions such as nurse training before and after graduation for research methodologies, statistics, and EBP, designing mentorship programs focused on linking researchers and nurses in hospitals, establishing Research & Development

centers in hospitals to evaluate nursing research applicability, allocation of time, and having access to services such as Internet, may improve RU by nurses in Iran, though this warrants further investigation. Health managers are expected to plan appropriate strategies to smooth the progress of RU by nurses in their practice.

Acknowledgments

We wish to thank Mr Mohammad Reza Armat for contribution in English editing.

Ethical issues

None to be declared.

Conflict of interest

The authors declare no conflict of interest in this study.

References

1. Chien WT, Bai Q, Wong WK, Wang H, Lu X. Nurses' perceived barriers to and facilitators of research utilization in mainland china: a cross-sectional survey. *Open Nurs J* 2013; 7: 96-106.
2. Yava A, Tosun N, Çiçek H, Yavan T, Terakye G, Hatipoğlu S. Nurses' perceptions of the barriers to and the facilitators of research utilization in Turkey. *Appl Nurs Res* 2009; 22 (3): 166-175.
3. 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.
4. Burns N. *Understanding nursing research: Building an evidence-based practice*. 5th ed. St. Louis: Saunders. 2010.
5. Tetroe J. Knowledge translation at the Canadian institutes of health research: a primer. *FoCus: Technical Brief* 2007; 18: 1-8.

6. Squires JE, Estabrooks CA, Gustavsson P, Wallin L. Individual determinants of research utilization by nurses: a systematic review update. *Implement Sci* 2011; 6: 1.
7. Oh EG. Research activities and perceptions of barriers to research utilization among critical care nurses in Korea. *Intensive Crit Care Nurs* 2008; 24 (5): 314-22.
8. Kajermo KN, Undén M, Gardulf A, Eriksson LE, Orton ML, Arnetz BB, et al. Predictors of nurses' perceptions of barriers to research utilization. *J Nurs Manag* 2008; 16 (3): 305-314.
9. Heydari A, Soudmand P, Hajiabadi F, Armat M, Rad M. The causes and solutions of the theory and practice gap from nursing education view point: A review article. *Journal of Medical Education Development* 2014; 7 (14): 72-85. (Persian)
10. Mahmoudi H, Mohammadi E, Ebadi A. Barriers to nursing care in emergency wards. *Iran J Nurs Midwifery Res* 2013; 18 (2): 145-51.
11. Heidari A, MazloomSR, Ildarabadi E. Nursing's position in health care delivery system in Iran. *Iranian Journal of Nursing Research* 2012; 7 (25): 37-44. (Persian)
12. Salsali M, Mehrdad N. Iranian nurses' constraint for research utilization. *BMC Nurs* 2009; 8:9.
13. ValiZadeh L, ZamanZadeh V, FathiAzar A, Safaeian A. Barriers and facilitators of research utilization among nurses working in teaching hospitals in Tabriz. *Hayat* 2002; 8 (2): 32-42. (Persian)
14. Salemi S, Shokoohi M, Eybpoosh S, Nejat S, Kashani H. Identify of barriers to research utilization in the nursing clinical practice, in Iran. *Iranian Journal of Epidemiology* 2010; 6 (1): 1-9.
15. Valizadeh F, Ghasemi F. Evaluation of the barriers of research utilization from point of view of nurses in Khorramabad teaching hospitals. *Aflak- Quarterly Scientific & Research Journal* 2006; 3 (4, 5): 34-42. Available from: <http://journals.lums.ac.ir/index.Php/aflak/article/view/49>. (Persian)
16. Mehrdad N, Salsali M, Kazemnejad A. The spectrum of barriers to and facilitators of research utilization in Iranian nursing. *J Clin Nurs* 2008; 17 (16): 2194-202.
17. Mehrdad N, Salsali M, Kazemnejad A. The extent of research utilization in nursing clinical practice, Tehran, Iran. *Hayat* 2009; 15 (3): 20-30. (Persian)
18. Amini K, Taghiloo G, Bagheri H, Fallah R, Ramazani Badr F. Nurses' perceptions of barriers to nursing research utilization in clinical environment in Zanzan hospitals, 2010. *Journal of Zanzan University of Medical Sciences and Health Services* 2011; 19 (76): 107-16. (Persian)
19. Shayestehfard M, Houshyari H, Cheraghian B, Latifzadeh S. Nurses' opinion towards barriers and facilitators of clinical utilization of research results in abadan and Khorramshahr hospitals. *Iranian Journal of Medical Education* 2011; 10 (4): 340-349. (Persian)
20. Latifi S, Khalilpour A, Rabiee O, Amani N. Barriers to research utilization among clinical nurses. *Journal of Mazandaran University of Medical Sciences* 2012; 22 (89): 88-95. (Persian)
21. Amini K, Negarandeh R, Dehghannayeri N. A survey of critical care nurses' perceptions of barriers to research utilization, and its relation to some demographic variables. *Iranian Journal of Nursing Research* 2012; 7 (24): 34-44.
22. Orujlu S, Hemmati Maslakpak M, Khajeali N. Barriers of research utilization in practice by nurses of Urmia University of Medical Sciences. *The Journal of Urmia Nursing and Midwifery Faculty* 2014; 12 (1): 33-43. (Persian)
23. Buhaid N, Lau R, O'Connor M. A survey of nurses' perceived barriers to research utilization in Bahrain in

- comparison to other countries. *Middle East Journal of Nursing* 2014; 8 (2): 3-9.
24. Wang LP, Jiang XL, Wang L, Wang GR, Bai YJ. Barriers to and facilitators of research utilization: a survey of registered nurses in China. *PLoS ONE* 2013; 8 (11): e81908.
 25. Chau JP, Lopez V, Thompson DR. A survey of Hong Kong nurses' perceptions of barriers to and facilitators of research utilization. *Res Nurs Health* 2008; 31 (6): 640-49.
 26. Atkinson M, Turkel M, Cashy J. Overcoming barriers to research in a Magnet community hospital. *J Nurs Care Qual* 2008; 23 (4): 362-68.
 27. Kajermo KN, Boström 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: 32.
 28. Nilsson Kajermo K, Nordström G, Krusebrant A, Björvell H. Barriers to and facilitators of research utilization, as perceived by a group of registered nurses in Sweden. *J Adv Nurs* 1998; 27 (4): 798-807.
 29. Bryar RM, Closs SJ, Baum G, Cooke J, Griffiths J, Hostick T, et al. The Yorkshire BARRIERS project: diagnostic analysis of barriers to research utilisation. *Int J Nurs Stud* 2003; 40 (1): 73-84.
 30. Retsas A, Nolan M. Barriers to nurses' use of research: an Australian hospital study. *Int J Nurs Stud* 1999; 36 (4): 335-43.
 31. Uysal A, Temel AB, Ardahan M, Ozkahraman S. Barriers to research utilisation among nurses in Turkey. *J Clin Nurs* 2010; 19 (23-24): 3443-452.
 32. Dunn V, Crichton N, Roe B, Seers K, Williams K. Using research for practice: a UK experience of the BARRIERS Scale. *J Adv Nurs* 1997; 26 (6): 1203-10.
 33. Parahoo K. Barriers to, and facilitators of, research utilization among nurses in Northern Ireland. *J Adv Nurs* 2000; 31 (1): 89-98.
 34. Hutchinson AM, Johnston I. Bridging the divide: a survey of nurses' opinions regarding barriers to, and facilitators of, research utilization in the practice setting. *J Clin Nurs* 2004; 13 (3): 304-15.
 35. Hatcher S, Tranmer J. A survey of variables related to research utilization in nursing practice in the acute care setting. *Can J NursAdm* 1997; 10 (3):31-53.
 36. Cummings GG, Hutchinson AM, Scott SD, Norton PG, Estabrooks CA. The relationship between characteristics of context and research utilization in a pediatric setting. *BMC Health Serv Res* 2010; 10:168.
 37. Oranta O, Routasalo P, Hupli M. Barriers to and facilitators of research utilization among Finnish registered nurses. *J Clin Nurs* 2002; 11 (2): 205-213.
 38. Estabrooks CA, Floyd JA, Scott-Findlay S, O'Leary KA, Gushta M. Individual determinants of research utilization: a systematic review. *J Adv Nurs* 2003; 43 (5): 506-20.
 39. Mehrdad N, Salsali M, Kazemnejad A. Iranian nurses' attitudes toward research utilisation. *J Res Nurs* 2008; 13 (1): 53-65.
 40. Parahoo K. Research utilisation and research related activities of nurses in Northern Ireland. *Int J Nurs Stud* 1998; 35 (5): 283-91.
 41. Hundley M, Milne J, Leighton-Beck L, Graham W, Fitzmaurice A. Raising research awareness among midwives and nurses: does it work? *J Adv Nurs* 2000; 31 (1):78-88.
 42. McClarey M. Review: Iranian nurses' attitudes toward research utilisation. *Journal of Research in Nursing* 2008; 13 (1): 66-7.
 43. Veeramah V. Utilization of research findings by graduate nurses and midwives. *J Adv Nur* 2004; 47m (2); 183-91.