Iran J Public Health, Vol. 53, No.12, Dec 2024, pp.2646-2658

Review Article

Barriers and Facilitators of Research Finding Utilization in Healthcare: A Scoping Review

Mojgan Zareivenovel [1], ****Leila Nemati-Anaraki*** [2], ***Shadi Asadzandi*** [1]

1. *Department of Medical Library and Information Science, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran*
2. *Health Management and Economics Research Center, Health Management Research Institute, Iran University of Medical Sciences, Tehran, Iran*

***Corresponding Author:** Emails: Nematianaraki.l@iums.ac.ir, lnemati@yahoo.com

(Received 10 Mar 2024; accepted 15 Jun 2024)

Abstract

Background: We aimed to identify and classify barriers and facilitators of implementation of research finding in healthcare.

Methods: A scoping review was conducted using Preferred Reporting Items for Systematic Reviews and Meta-analyses Extension for Scoping Reviews (PRISMA-ScR). Articles were extracted from online databases. The initial search was implemented on Jun, 2022, and updated until end of 2023. Two independent reviewers screened, selected, and extracted the data. Data were synthesized using thematic analysis.

Results: Overall, 32 studies from 3,435 documents met the inclusion criteria. From which 60 barriers and 45 facilitators were identified. The main barriers and facilitators extracted were grouped into eight components: Organization, Collaboration to knowledge utilization, Researcher role, Methodology and technical aspect of research, Management, Cultural and social determinants, Training, and Government and community. Organizational barriers and facilitators were the most concerning with insufficient attention, methodology and technical aspects of research were salient barriers, and the other components had similar roles.

Conclusion: This study directly addresses a gap in implementing the research findings in organizations. The government would benefit from knowledge implementation with respect to evidence utilization. Additionally, implementation knowledge was not transferred to healthcare practice to a sufficient extent, thus restricting the systematic use of implementation knowledge in practice.

Keywords: Research finding; Utilization; Implementation; Scoping review; Knowledge implementation

Introduction

Over many years, in the climate of research, the utilization of research findings powerfully endorsed to solve problems and improve the current circumstances, make appropriate decisions, and increase the efficiency and productivity of the organization (1, 2). This capacity gives the organization the power to improve its performance (3) and promote people's health (4) because research is a domain which constantly emerging new information (5). Research should be an assistant to de-

velop, reform, create knowledge and change procedures and policies. However, the important point is that the production of new knowledge is effective when it is made available to stakeholders and used in decision-making (6).

Knowledge utilization refers to the 'process by which specific research-based knowledge is implemented in practice' (7); in other words, it means "Putting research findings into regular use". Throughout recent years, a few recognizable frameworks and structures have been designed to determine the quality of knowledge implemented in various settings (8, 9). This can remind us that science should not be kept in the confines of scientific centers and that we should not be satisfied with publishing articles solely in journals. A major challenge for the successful implementation of research into practice is its complexity in understanding determinants (10). There is often a gap between theoretical and applied knowledge upon practical area. The need to develop strategies to facilitate research use has been put forward by a number of studies(11, 12). Various frameworks have been used to distinguish factors that might actually impact the process of using research findings in practice (13-16).

Despite extensive research and resource investment, a definitive direction for how to best implement and sustain research utilization remains elusive. An important question that is raised: How to implement the research finding in healthcare setting? Accelerating the implementation of research finding is related to the improvement of public health and the well-being of the population. A good lesson learned from the COVID-19 pandemic shows that to surmount challenges in response to public health emergencies, understanding how to implement and improve programs and service delivery is necessary (17). Understanding how to achieve the best possible outcomes through knowledge is crucially important in healthcare. This highlights the need to learn about the barriers and facilitators of research implementation, which can be highly useful in improving healthcare practices (18, 19). According to a review, insufficient time to implement new ideas, inadequate facilities for implementation, insufficient authority to change patient care procedures, and lack of time to read research were perceived as the most significant barriers to utilization of nursing research (20). Finding from another study revealed that the top 10 barriers to research utilization among nurses consisted of seven organizational factors, two communication factors, and one nurse-related factor (21). Barriers to implementing research in clinical practice have long been a concern.

We aimed to investigate not only the barriers but also the facilitating factors for implementing research findings without restrictions in a specific field. To the best of our knowledge, there is limited information available on how to effectively implement research findings in healthcare. Therefore, this scoping review aimed to address both the barriers and facilitators of implementing research findings in healthcare.

Methods

This systematic scoping review was developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses Extension for Scoping Reviews (PRISMA-ScR) checklist (22). Scoping reviews are appropriate for building knowledge in various types of studies (23).

Search strategy

The search strategy for electronic databases was developed based on the research question and the key components. The preferred databases were the PubMed/ Medline, ProQuest, Web of Science, Scopus, and the Google Scholar. To find related terms, the Medical Subject Headings (MeSH) thesaurus was used. The keywords: knowledge implement*, knowledge use, research utili*, evidence use, implementation result, implementation research result, and implementation science were used to construct the search strategy. To identify studies that were missed in the databases and search engine searches, key journals were handsearched, and three journals, "Implementation Science", "research Policy", and Joanna Briggs Institute (JBI), were identified. The initial search was

implemented on Jun, 2022, and updated until end of 2023. As well as the reference lists of all included studies were manually scanned to identify any relevant investigations suitable for inclusion. We reviewed literature from its inception to the end of June 2023, and did not restrict the search by language. Additional search terms such as 'translational research', 'evidence into practice', Knowledge Transition, and 'KT' were omitted to focus explicitly on utilization of research finding.

Study Selection

Using a search strategy in different databases, 3,435 retrieved studies were downloaded, and were entered into the to the Endnote version X8 (Thomson Reuters, New York, NY) and duplicate studies were removed. The title and abstract of the remaining studies were screened by two research team members (M ZV, Sh A) to optimize the study robustness. Full texts were retrieved for final eligibility screening by using the inclusion and exclusion criteria.

Discrepancies between authors at any stage were resolved via consensus between the two reviewers, and when this was not sufficient, they discussed the matter with a third reviewer (L N-A) whose decision was finalized. The main inclusion criteria included articles related to the implementation of research findings. This scoping review included all primary research studies conducted using quantitative, qualitative, mixed methods, and reviews which were relevant to the purpose of this study and investigated barriers and facilitators of implementation of research finding in healthcare. Documents of other types such as editorials, commentaries, knowledge translation articles, implementation guidelines, theoretical papers and books, articles whose full texts were not available, and those that were not related to the implementation of research findings were excluded.

Data extraction

The next stage was to overview the data for charting key items. We entered the charted data into a 'data charting form', developed by two reviewers to determine which variables to extract. We recorded the information as follows: first author; publication year; participants; sample size; country; type of study; barriers of implementation; facilitators of implementation; summary of findings; and funding source. Discrepancies between authors at any stage were resolved via consensus between the two reviewers, and when this was not sufficient, they discussed the matter with a third reviewer (L N-A) whose decision was finalized.

Risk of quality assessment

Using Mixed-Methods Appraisal Tool (MMAT), the quality of the included articles was independently evaluated by two authors (MZV, Sh.A). MMAT has been developed to enable quality assessment of different study designs using a single tool involving various criteria for articles reporting quantitative, qualitative, and mixed-method studies. The tool includes two screening questions, in addition to five questions per study design, in which response options are 'yes', 'no', and 'can't tell'. The 'can't tell' response category indicates that the article does not report appropriate information to answer 'yes' or 'no' or that it reports unclear information related to the criterion (24). Disagreements were decided through compromise between the two reviewers, and in case this was not useful, we referred to a third reviewer (L N-A) to finalize the decision. All articles were deemed to be of sufficiently high quality and were included in this research.

Data synthesis

The data gathered in the previous stages formed the basis of the analysis and the body of review. Data were synthesized using thematic analysis approach. The codes were generated based on concepts in the text. Then, related codes grouped together based the similarities and differences and labelled to form descriptive themes, and identified the main themes. Data analysis and grouping was done independently by (M ZV, Sh A). Discrepancies were resolved through discussion with a third reviewer (L N-A). The content of 32 articles was reviewed. Factors that affected the utilization of research findings in healthcare were coded as barriers or facilitators. Additional themes that emerged during data analysis were refined. Some

themes were modified and merged, and we abstracted data according to the following components: 1) Organization, 2) Collaboration to knowledge utilization, 3) Researcher role, 4) Methodology and technical aspect of research, 5) Management, 6) Cultural and social determinants, 7) Training, and 8) Government and community.

Results

We identified 3,435 studies across all databases and the search engine searched, excluded articles in titles or abstracts and full text screen stages, and finally screened 32 full-text articles (Fig. 1).

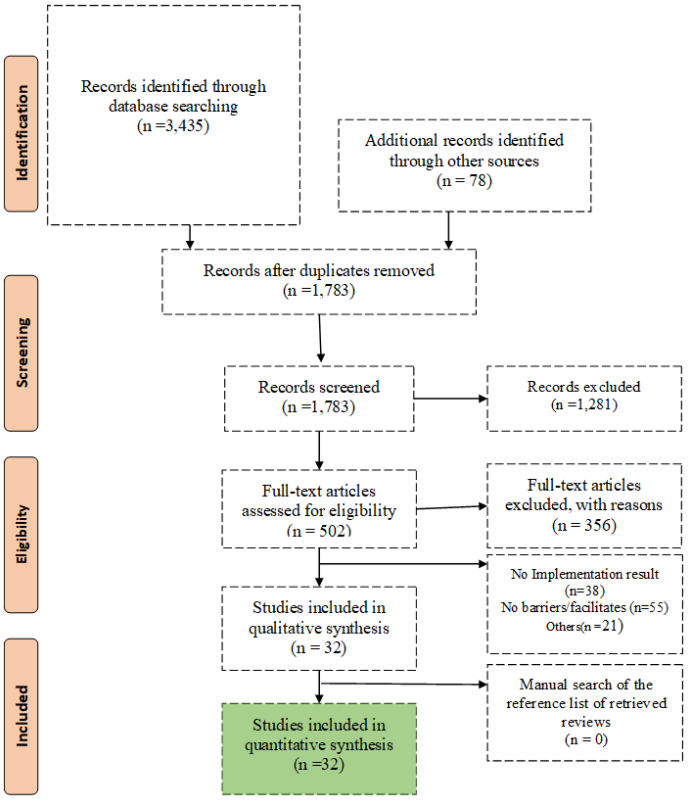

Fig. 1: PRISMA flow diagram

Characteristics of Articles

The articles that dealt with barriers and facilitators of implementation of research finding in healthcare were conducted in 12 countries representing Iran (n=14), the United States of America (n=5), Canada (n=3), the United Kingdom (n=3), Australia (n=2), Hong Kong, the Netherlands, Vietnam, Sweden, and South Africa (n=1). The requirement for successful implementation was the factor that improved implementation and facilitated implementation in various dimensions. Although there was an overlap across categories, some barriers and facilitators were categorized based on the level at which they primarily function and were most appropriately addressed. In this article, the main components extracted were grouped into eight components: Organization, Collaboration to knowledge utilization, Researcher role, Methodology and technical aspect of research, Management, Cultural and social determinants, Training, and Government and community (Table 1).

Table 1: Characteristics of reviewed studies

First author	*Country*	*Type of Study*	*Components*	*Barriers or Facilitators*
Mahdian(25)	Iran	Mixed method	Organization; Collaboration to knowledge utilization; Researcher role; Management; Cultural and social determinants; Government and community;	Barriers/Facilitators
Nilsson kajermo(26)	Sweden	Descriptive	Researcher role; Organization; Management; Methodology and technical aspect of research;	Barriers/Facilitators
Parahoo(27)	Northern Ireland	Descriptive	Researcher role; Organization; Management; Methodology and technical aspect of research;	Barriers/Facilitators
Craik(28)	Toronto	Ground Theory	Collaboration to knowledge utilization; Researcher role;	Experiences
Hasanzadeh(29)	Iran	Review	Organization; Researcher role; Cultural and social determinants; Government and community Methodology and technical aspect of research;	Barriers/Facilitators
Abedi(30)	Iran	Meta-Analysis	Management; Methodology and technical aspect of research; Organization; Collaboration to knowledge utilization; Cultural and social determinants; Training;	Barriers/Facilitators
Meijers(31)	Netherlands	Systematic Review	Researcher role; Organization; Management;	Barriers/Facilitators
Thompson RN(32)	Hong Kong	Descriptive	Organization; Researcher role; Management; Training;	Barriers/Facilitators
Mehrdad (33)	Iran	Analytical Descriptive	Researcher role; Training; Organization; Management; Cultural and social determinants;	Barriers/Facilitators
Peterson (34)	New Mexico	Qualitative Retrospective Case Study	Collaboration to knowledge utilization; Management; Researcher role; Government and community	Barriers/Facilitators
Hashemi (1)	Iran	Analytical Descriptive	Management; Researcher role; Collaboration to knowledge utilization;	Facilitators
Matin (35)	Iran	Descriptive	Organization; Collaboration to knowledge utilization; Management;	Barriers/Facilitators
Estabrooks (36)	Canada	Mixed method	Researcher role; Management; Organization;	Barriers/Facilitators
Hasanzadeh (37)	Iran	Review	Researcher role; Management; Organization; Methodology and technical aspect of research; Cultural and social determinants;	Barriers
Elliott (38)	UK	Mixed Method	Organization; Researcher role; Training;	Barriers Attitudes
Amini (39)	Iran	Cross-Sectional	Organization; Methodology and technical aspect of research; Management; Researcher role; Collaboration to knowledge utilization;	Barriers

Table 1: Continued …

Latifi (40)	Iran	Cross-Sectional	Methodology and technical aspect of research; Researcher role; Collaboration to knowledge utilization; Management; Organization;	Barriers/Facilitators
Ahmadi(41)	Iran	Survey	Methodology and technical aspect of research; Researcher role; Collaboration to knowledge utilization; Management; Organization;	Describe the current state
Rezaei (42)	Iran	Cross-Sectional	Methodology and technical aspect of research; Organization; Researcher role; Management;	Barriers/Facilitators
Braithwaite (43)	Australia	Systematic Review	Organization; Collaboration to knowledge utilization;	Barriers/Facilitators
Mohammadpour(44)	Iran	Analytical Descriptive	Organization; Researcher role; Methodology and technical aspect of research; Training; Management;	Barriers/Facilitators
Humphries (45)	Canada	Systematic Review	Organization; Researcher role; Management; Cultural and social determinants;	Barriers/Facilitators
Bashiri (46)	Iran	Survey	Methodology and technical aspect of research; Management; Collaboration to knowledge utilization; Organization;	Barriers
Eriksson (47)	Vietnam	Qualitative/Focus group	Collaboration to knowledge utilization; Organization; Management;	Barriers/Facilitators
Zamanimanesh (48)	Iran	Analytical Descriptive	Cultural and social; Researcher role; Organization; Management;	Controlling health issue
Bach-Mortensen (12)	UK	Systematic Review	Collaboration to knowledge utilization; Organization; Researcher role; Management;	Controlling health issue
Wolfenden (49)	Australia	Systematic Review	Training; Methodology and technical aspect of research; Researcher role; Management;	Barriers/Facilitators
Selove(50)	USA	Scoping Review	Methodology and technical aspect of research; Management; Collaboration to knowledge utilization;	Controlling health issue
Campione (51)	USA	Review	Methodology and technical aspect of research; Collaboration to knowledge utilization; Training; Organization; Cultural and social determinants; Government and community Researcher role;	Experiences
Schwartz (52)	USA	Mixed Method	Collaboration to knowledge utilization; Training;	Develop policy
Hailu Dagne (53)	South Africa	Qualitative	Management; Researcher role; Training; Organization;	Barriers/Facilitators
Kumar (54)	USA	Qualitative	Collaboration to knowledge utilization; Government and community Organization; Researcher role;	Describe the current state

From the 25 articles that looked at the barriers and facilitators (1, 12, 25-27, 29-42, 44-48, 51), one dealt with developing an expanded scope of practice policies (54), two with experience of research

utilization (28, 53), one described the current state-of-play and identified, distilled and explicated common implementation success factors (43), and three dealt with the use of implementation science in controlling health issues (49, 50, 52). Of the 32 articles reviewed, four were qualitative, four were mixed method, 10 were review, eight were analytical descriptive, two were survey, three were cross-sectional, and one was grounded theory. The countries were to improve promotion of the use of research findings in their organizations. We provide the study's emerging themes in Table 2.

Table 2: Summary of identified barriers and facilitators

Barriers	***Facilitators***
Government and community	
-Lack of the budget; -Lack of controlling imports and guaranteeing sales of domestic products; -Lack of communication with research institutes and managers; -Lack of national system to support the use of research; - Lack of clarity in research goals, policies and priorities; -Limitations by policies؛ -Weakness of research-oriented culture.	-Granting; -Encouraging and supporting the implementation science by government; -Hybridization of frameworks; -Tactical and conceptual use of research in prioritizing and directing policies; -Providing necessary facilities to participate in clinical conferences; -Allocation of especial funds from internal and external sources.
Organization	
-Financial limitations and lack of budget; -Lack of strategy; -Lack of organizational support system; -Perceived barriers in using research; -Lack of facilities; -Lack of insufficient instructions; -Lack of legal tools to apply research findings; -Lack of a mechanism or system to confirm the accuracy of research finding; -Unavailability of research when it is needed; -Poor demand and support for research implementation; -Poor publishing mechanism; - Lack of awareness of research values in clinical practice; - Poor prevent mechanism to investigate repeated research; -Poor attention to organization needs; - High implementation costs; -Lack of specialized staff.	-Capacity for evidence uses; -Organizational support; -Empowering for the desired implementation; -Measuring the success of implementation; -Identification of opportunities; -Financing; -Organizational context; -Availability of research finding; -Issuing research findings in the form of a circular; -Developing resources and instruments; -Needs assessment and design interventions; -Simplicity of regulations and implementation steps from research to production; -Participation of researchers in the benefits of project implementation; -Support the managers; -Support the staff.
Collaboration to knowledge utilization	
-Poor participation of non-health actors; -Poor collaboration between researchers, policymakers, decision makers and users; -Distrust of decision makers and managers in research; -Non-cooperation of clinicians with using nursing research	-Expand collaboration by networking between researchers, policymakers, decision makers, stakeholder and users; -Develop cooperative networks and peer consultation; -Design research in a multi-organizational level; -Engagement of leaders and key stakeholders at all levels
Researcher role	
-Lack of proficiency in English; -Weak communication skills; -Lack of enough time to implement ideas; -Choosing an inappropriate research model by researchers; -Researchers are not able to motivate managers on use research findings and do not have enough authority to change; -Doubts in the researcher's scientific competence.	-Increasing interest to integrate research evidence; -Critical thinking and, questioning behavior; -Awareness on the way of presenting research finding; - Creativity; - Develop individual skills; - Scientific and technical ability; - Motivation and follow-up; -Ability to write clear and unambiguous research reports; - Clinical competence.
Methodology and technical aspect of research	

Table 2: Continued …

-Methodological weakness; -Enormous amount of information related to a subject and inconsistency of results in that subject; -Low generalizability of research finding; -Choosing an inappropriate research title; -Doubt in the quality of data collection and methodology; -Lack of coherence in findings; -Low clarity for application of the findings; -Low scientific value for finding; -Statistical analyzes are not understandable; -Low quality of research tools; -low accuracy.	
Management	
-Manager's resistance to change; -Managers do not understand the importance value of research; -Management will not allow implementation; -Lack of scientific ability of managers and experts to use the finding; -Managers' lack of time; -Lack of motivation and desire to study research reports; -Negative attitude of Managers to research; -Lack of similar approaches of managers and researchers in dealing with issues; -Lack of attention of senior managers to research finding; -Lack of enough authority to change; -Contradiction between previous experiences of managers and research finding; -Publishing research finding in English.	-Knowledge management; -Platforms for informing; Strengthening the clinical performance; -Develop Structure and processes; -Control interventions and planning; -Setting up the database; -Pay attention to meritocracy and research insight
Cultural and social determinants	
-Weakness of teamworking and emphasis on individualism; -Ignoring the economic, cultural, educational and social dimensions in research.	-Expanding the culture of research and development by providing a suitable environment; -Attention to the level of culture in the society.
Training	
-Lack of educational program in the field of implementation science and use of research results; - Lack of willingness to train managers and experts in the field of implementing research findings	-Design supporting mechanisms for training implementation science for researchers, policymakers, decision maker, managers and experts; -Establishment of knowledge implementation units in university or institute.

Eight components of barriers and facilitators were identified from all 32 articles by content analysis. Overall, 60 barriers were identified and thematically classified as follows: Organization (16), Collaboration to knowledge utilization (4), Researcher role (6), Methodology and technical aspect of research (11), Government and community (7), Management (12), Cultural and social determinants (2) and Training (2). Overall, 45 facilitators were identified in the study: Organization (15), Collaboration to knowledge utilization (4), researcher role (9), Methodology and technical aspect of research (0), Government and community (6), Management (7), Cultural and social determinants (2) and Training (2). A visual frequency chart is presented in (Fig. 2).

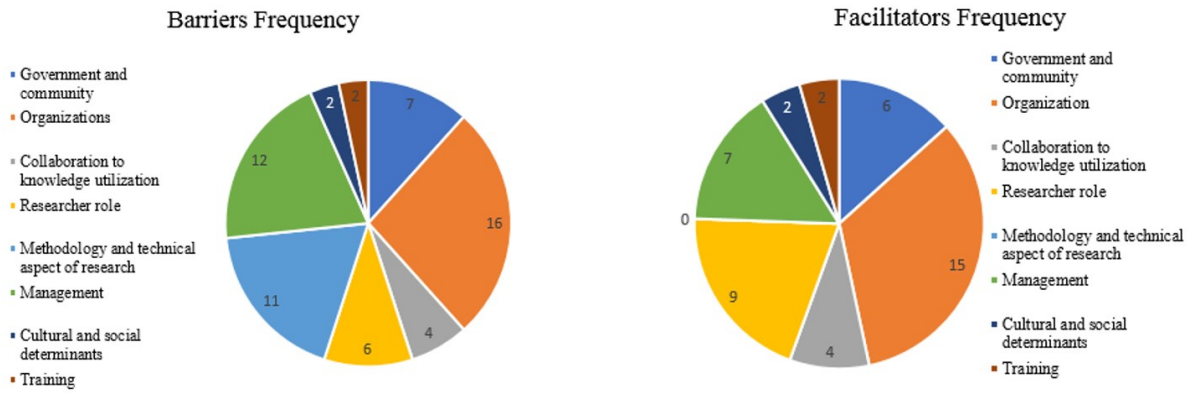

Fig. 2: Barriers and facilitators frequency

Discussion

We performed a systematic scoping review to gather knowledge about the implementation of the research findings in healthcare. The present study addresses implementation as the major problem in the field of knowledge implementation, which countries still face and requires global attention (55). In this study, thirty-two articles were reviewed, 60 barriers and 45 facilitators were identified, and eight major components were determined.

Generally, the literature has mainly focused on barriers and facilitator determinants. Organizational barriers and facilitators were the most concerning with insufficient attention, methodology and technical aspects of research were salient barriers, and the other components had similar roles. Overall, 28.8% of the included studies evaluated implementation in the field of nursing. The findings are consistent with the study by Zhao et al (56), who reported nursing as the most common evidence-based practice (EBP) implementation field. To date, due to the transformative role of nursing, EPB research is mostly conducted in this field. Therefore, nurses can promote the quality of healthcare. Our findings are consistent with a study in which the interaction of researchers and decision makers and research management and planning were classified as two major themes (1).

The most effective facilitator in this study is encouraging the involvement of all key stakeholders. In addition, close collaboration between researchers, policymakers, and granting agencies and partnerships between researchers and research users should be considered as collaborative strategies. Similar results have been reported (30, 57). Our findings are consistent with a study conducted by Rycroft-Malone(58) that identifies the essential elements of context that enable research utilization to be "culture, leadership and evaluation" that fosters research utilization. Numerous barriers are common across methodology and technical aspects of research, cultural and social determinants, training and management components.

This study showed that the most important barriers preventing the utilization of the research findings are managers who do not trust the research findings, lack of scientific ability of managers and experts to use the findings, managers' lack of time, lack of funding and weak methodology. These findings highlighted the golden point, which refers to the utilization of research findings in organizations by managers. The most commonly described behavior was support for change, which involved demonstrating conceptual and operational commitment to research-based practices (59). The inaccessibility of research findings was also frequently reported (26, 29, 30, 42, 54) and placed in organization, management components. In addition, in our study, the accessibility of research findings is mentioned as both a barrier and a facilitator. Increasing capacity in organizations for accessibility of research findings influences policymakers' and decision makers' attitudes and can improve

the utilization of research findings. Lack of support by the organization managers and staff was a prominent barrier in the reviewed articles (30, 37, 41, 48). In particular, in three studies, clinicians had no desire to utilize nursing research findings (39, 40, 44). This issue should be considered more and provide a solution for appropriate communications in healthcare settings. Lack of clarity in research goals, policies and priorities and limitations by policies are classified as government and community components (25).

Governments and communities must have a supporting strategy for high-quality research production and pay more attention to healthcare systems. Additionally, they need to investigate national systems to support the use of research findings and provide infrastructures. In this study, the training barriers and facilitators of implementation were scrutinized. Training is a good effective accelerator for the key research audience and practitioners, and it should be reinforced by implementation strategies. Additionally, more training and education are needed. This finding is consistent with a study on a graduate degree program in implementation science conducted in an African university that addresses barriers to the implementation of HIV prevention and care (19). Developing a field of study in implementation science for master's- and doctoral-level students shows global attention to this issue; as in China, implementation science has become a "*buzzword"* (56).

Conclusion

This study provides a big picture of the extent of using the research findings. We highlight a need to refocus the use of research evidence. Research utilization involves a complex process that incorporates organization, researcher, government and community, managers, and cultural and social determinants. Implementation science can accelerate the effect of research and enable systems, providers, and governments. Implementation knowledge was not transferred to healthcare practice (and practitioners) to a sufficient extent, thus restricting the systematic use of implementation knowledge in practice. To narrow this gap, eliminating the organizational and community barriers to provide the capacity to use research findings is vital. The government would benefit from knowledge implementation with respect to evidence utilization. Effective utilization of research findings should be prioritized by creating a proper collaboration and a community of granting bodies, policy makers, health-care delivery specialists, public health programmers, clinicians, stakeholders, managers, government agencies and researchers in all stages. Governments must implement research findings as a local priority, support high-quality research through investing, take urgent action to build a robust researcher capacity, and establish departments that coordinate research implementation and change their policy. We believe that introducing a knowledge implementation approach is an effective step in implementing diverse potential in implementing the research findings as a formulated comprehensive strategy. Moreover, identifying barriers and facilitators can help universities and research centers improve their interaction to facilitate evidence-informed to stakeholders.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Acknowledgements

This work is part of a Ph.D. thesis in Medical Library and Information Science supported and founded by the Iran University of Medical Science, Tehran, Iran. The ethical code and research number are IR.IUMS.REC.1400.1152 and IUMS/SHMIS-1401-1-37-23342, respectively. We would like to thank Iran University of Medical Science for supporting this research.

Conflict of interest

The authors declare that there is no conflict of interests.

References

1. Hashemi Sj, Ebadi GH.H (2006). The Exploring Ways For Utilizing Research Findings In Khouzesta Organization Of Eucation. *J Edu Sci*, 13(4):79-101. [In Persian]
2. Scott-Findlay S, Golden-Biddle K (2005). Understanding how organizational culture shapes research use. *J Nurs Adm*, 35(7-8):359-65.
3. Knapp H, Anaya HD (2012). Implementation science in the real world: a streamlined model. *J Healthc Qual*, 34(6):27-34.
4. Thamlikitkul V (2006). Bridging the gap between knowledge and action for health: case studies. *Bull World Health Organ*, 84(8):603-7.
5. Matthew-Maich N, Ploeg J, Jack S, Dobbins M (2010). Transformative learning and research utilization in nursing practice: a missing link?. *Worldviews Evid Based Nurs*, 7(1):25-35.
6. Shabankareh K, Mojiri S, Soleymani MR and et al (2022). Strategies, facilitators, and barriers to interaction between health researchers and policy makers: Protocol for a systematic review. *J Educ Health Promot*, 11:235.
7. Squires JE, Estabrooks CA, Gustavsson P, Wallin L (2011). Individual determinants of research utilization by nurses: a systematic review update. *Implement Sci*, 6:1.
8. Khalil H (2016). Knowledge translation and implementation science: what is the difference?. *Int J Evid Based Healthc*, 14(2):39-40.
9. Glasgow RE, Vinson C, Chambers D, et al (2012). National Institutes of Health approaches to dissemination and implementation science: current and future directions. *Am J Public Health*, 102(7):1274-81.
10. Cummings GG, Hutchinson AM, Scott SD, et al (2010). The relationship between characteristics of context and research utilization in a pediatric setting. *BMC Health Serv Res*, 10:168.
11. Hemsley-Brown J (2004). Facilitating research utilisation: A cross-sector review of research evidence. *International Journal of Public Sector Management,* 17(6):534-552.
12. Bach-Mortensen AM, Lange BC, Montgomery P (2018). Barriers and facilitators to implementing evidence-based interventions among third sector organisations: a systematic review. *Implement Sci*, 13(1):103.
13. Olswang LB, Prelock PA (2015). Bridging the gap between research and practice: Implementation science. *J Speech Lang Hear Res*, 58(6):S1818-26.
14. Kitson AL, Rycroft-Malone J, Harvey G, et al (2008). Evaluating the successful implementation of evidence into practice using the PARiHS framework: theoretical and practical challenges. *Implement Sci,* 3:1.
15. Loutfy M, Tharao W, Kazemi M, et al (2021). Development of the Canadian Women-Centred HIV Care Model Using the Knowledge-to-Action Framework. *J Int Assoc Provid AIDS Care*, 20: 2325958221995612.
16. Tinc PJ, Gadomski A, Sorensen JA, et al (2018). Adapting the T0-T4 implementation science model to occupational health and safety in agriculture, forestry, and fishing: A scoping review. *Am J Ind Med*, 61(1):51-62.
17. Marten R, Mikkelsen B, Shao R, et al (2021). Committing to implementation research for health systems to manage and control non-communicable diseases. *Lancet Glob Health*, 9(2):e108-e109.
18. Tricco AC, Cardoso R, Thomas SM, et al (2016). Barriers and facilitators to uptake of systematic reviews by policy makers and health care managers: a scoping review. *Implement Sci,* 11:4.
19. Ramaswamy R, Chirwa T, Salisbury K, et al (2020). Developing a field of study in implementation science for the Africa region: The Wits–UNC AIDS Implementation Science Fogarty D43. *Pedagogy Health Promot*, 6(1):46-55.
20. Jabonete FGV, Roxas REO (2022). Barriers to Research Utilization in Nursing: A Systematic Review (2002-2021). *SAGE Open Nurs*, 8: 23779608221091073.
21. Berthelsen C, Hølge-Hazelton B (2021). The Importance of Context and Organization Culture in the Understanding of Nurses' Barriers Against Research Utilization: A Systematic Review. *Worldviews Evid Based Nurs*, 18(2):111-117.

22. Tricco AC, Lillie E, Zarin W, et al (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*, 169(7):467-73.
23. Levac D, Colquhoun H, O'Brien KK (2010). Scoping studies: advancing the methodology. *Implement Sci*, 5:69.
24. Hong QN, Fàbregues S, Bartlett G, et al (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for Information,* 34 (4):285-291.
25. Mahdian H (1992). The status of utilization of research finding in Iran. *Rahyaft*, 2(3). [In Persian]
26. Nilsson Kajermo K, Nordström G, Krusebrant A, et al (1998). Barriers to and facilitators of research utilization, as perceived by a group of registered nurses in Sweden. *J Adv Nurs,* 27(4):798-807.
27. Parahoo K (2000). Barriers to, and facilitators of, research utilization among nurses in Northern Ireland. *J Adv Nurs*, 31(1):89-98.
28. Craik J, Rappolt S (2003). Theory of research utilization enhancement: A model for occupational therapy. *Can J Occup Ther*, 70(5):266-75.
29. Hasanzdeh R (2005). Evaluating barriers and faciliators in theutilization of research findings by universities and executive organizations. *J Educ*, 20(4):39-.[In Persian]
30. Abedi A, Oreizi H, Shavakhi AR (2005). Meta-analysis of influential factors on application of research increment in ministry of education. *Journal of Educational Innovations,* 4(2):109-33. [In Persian]
31. Meijers JM, Janssen MA, Cummings GG, et al (2006). Assessing the relationships between contextual factors and research utilization in nursing: systematic literature review. *J Adv Nurs*, 55(5):622-35.
32. Thompson DR, Chau JP, Lopez V (2006). Barriers to, and facilitators of, research utilisation: a survey of Hong Kong registered nurses. *Int J Evid Based Healthc,* 4(2):77-82.
33. Mehrdad N, Salsali MA, Kazemnejad AN (2007). Nurses' attitudes toward research utilization in clinical practice. *Hayat*, 13(2):41-52. [In Persian]
34. Peterson JC, Rogers EM, Cunningham-Sabo L, et al (2007). A framework for research utilization applied to seven case studies. *Am J Prev Med*, 33(1 Suppl):S21-34.
35. Matin N (2007). The Extent of Utilizing Research Findings in the Educational System. *Quart J Educ*, 22(4).
36. Estabrooks CA, Scott S, Squires JE, et al (2008). Patterns of research utilization on patient care units. *Implement Sci*, 3:31. [In Persian]
37. Hasanzadeh R (2008). Barriers to the utilization of research in organizations and how confronting them. *Farabi International Festival.* Available from http://farabiaward.ir.
38. Elliott V, Wilson SE, Svensson J, et al (2009). Research utilisation in sonographic practice: Attitudes and barriers. *Radiography*, 15(3):187-95.
39. Amini K, Taghiloo G, Bagheri H, et al (2011). Nurses' Perceptions of Barriers to Nursing Research Utilization in Clinical Environment in Zanjan Hospitals, 2010. *J Adv Med Biomed Res*, 19(76):107-116. [In Persian]
40. Latifi S, Khalilpour A, Rabiee OL, et al (2012). Barriers to research utilization among clinical nurses. *J Mazandaran Univ Med Sci*, 22(89):87-95. [In Persian]
41. Ahmadi M, Rasoolzadeaghdam S, Mohammadifar Y (2012). The obstacles and solutions in using human sciences research. *Interdisciplinary Studies in the Humanities,* 4(2):17-34.
42. Rezaei A, Hosseini MA, Mehrdad N (2012). The influential factors in profiting the research evidences and results in clinical practice by rehabilitation practitioners. *Journal of Rehabilitation*, 13(3):50-60. [In Persian]
43. Braithwaite J, Marks D, Taylor N (2014). Harnessing implementation science to improve care quality and patient safety: a systematic review of targeted literature. *Int J Qual Health Care*, 26(3):321-9.
44. Mohammadpour A, Khosravan S, Mansourian MR, et al (2014). Nurses' Opinion towards Barriers and Facilitators of Clinical Utilization of Research Results among nurses of teaching hospitals in gonabad 2013. *J Med Edu Dev*, 7(15):103-16. [In Persian]
45. Humphries S, Stafinski T, Mumtaz Z, et al (2014). Barriers and facilitators to evidence-use in program management: a systematic review of the literature. *BMC Health Serv Res*, 14:171.

46. Bashiri J, Gilvari A, F K (2015). The Application of the Results of Research Projects of the Agricultural Research, Education and Extension Organization as Viewed by the Researchers. *Sciences and Techniques of Information Management*, 1(1):47-68. [In Persian]
47. Eriksson L, Bergström A, Hoa DTP, et al (2017). Sustainability of knowledge implementation in a low-and middle-income context: experiences from a facilitation project in Vietnam targeting maternal and neonatal health. *PLoS One*, 12(8):e0182626.
48. Zamaanimanesh H, Musavi A'zam (2016). Survey of Teachers' Perspectives on Barriers of Implementing the Research Findings to Education System. *Educational and Scholastic studies*, 5(1):99-133. [In Persian]
49. Wolfenden L, Reilly K, Kingsland M, et al (2019). Identifying opportunities to develop the science of implementation for community-based non-communicable disease prevention: a review of implementation trials. *Prev Med*, 118:279-285.
50. Selove R, Neil-Sztramko S, Leng J, et al (2020). Use of implementation science in tobacco control intervention studies in the USA between 2000 and 2020: a scoping review protocol. *BMJ Open*, 10(11):e038617.
51. Campione E, Wampler-Kuhn M, Fisher MI (2021). Translating evidence into practice through knowledge implementation. *Rehabil Oncol*, 39(2):103-10.
52. Schwartz SR, Smith J, Hoffmann C, et al (2021). Implementing implementation research: teaching implementation research to HIV researchers. *Curr HIV/AIDS Rep*, 18(3):186-97.
53. Dagne AH, Tebeje H, Demewozu M (2021). Research utilisation in clinical practice: the experience of nurses and midwives working in public hospitals. *Reprod Health*, 18(1):62.
54. Kumar A, Ray AB, Blanchard C (2022). Use of research evidence varied in efforts to expand specific pharmacist autonomous prescriptive authority: an evaluation and recommendations to increase research utilization. *Health Res Policy Syst*, 20(1):1.
55. Damba FU, Mtshali NG, Chimbari MJ (2022). Barriers and facilitators of translating health research findings into policy in sub-Saharan Africa: A Scoping Review. *Palgrave Communications*, 9(1):1-15.
56. Zhao J, Bai W, Zhang Q, et al (2022). Evidence-based practice implementation in healthcare in China: a living scoping review. *Lancet Reg Health West Pac*, 20:100355.
57. Hennink M, Stephenson R (2005). Using research to inform health policy: barriers and strategies in developing countries. *J Health Commun*, 10(2):163-80.
58. Rycroft-Malone J, Harvey G, et al (2004). An exploration of the factors that influence the implementation of evidence into practice. *J Clin Nurs*, 13(8):913-24.
59. Gifford WA, Squires JE, Angus DE, et al (2018). Managerial leadership for research use in nursing and allied health care professions: a systematic review. *Implement Sci*, 13(1):127.