Nurses' Barriers to Research Utilization

Hemşirelerin Araştırma Kullanım Engelleri

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Abstract

Objectives: Evidence-based practice (EBP) is an approach to making quality decisions and providing nursing care based upon personal clinical expertise in combination with the most current, relevant research available on the topic. EBP can significantly affect mortality and morbidity rates and play an important role in the reduction of geographic differences. Ten/fifteen years ago in our country, "Health Transition Project" was launched to improve the quality of health care. Thus it should be investigated to better understand nurses' current perceived barriers to research utilization. This study aim to investigate barriers of research utilization among nurses at a public hospital and radical changes of its health care system.

Materials and Methods: This study was planned as a descriptive research. This study was conducted between the dates of February-May 2018 at a Public Hospital in Turkey. All participant who volunteered to participate in the survey and who completed fully form were evaluated. Simple random sampling method was used. Data were collected using a face-to-face interview technique with the questionnaire developed by the researchers and Barriers to Research Utilization Scale Turkish version. The BARRIERS scale developed by Funk consists of 29 items and four subgroups. These four factors were labeled nurse, organization, innovation and communication. As obtained the scale score increases obstacle is increasing.

Results: A total of 350 nurses participated in this survey. Most of participants were undergraduate. On average, they had been employed in the nursing profession for 8.6 years (range 1-30 years). A large part of the nurses was not following the publications related to the profession (75.15%) and believed that the practical changes would provide minimal benefit (73.42%). For the organizational factors, the biggest barriers reported were "physicians will not cooperate with implementation" (76.85%). For the innovation factors the biggest barriers determined were "the nurse is uncertain whether to believe the results of the research (72.57%). For the communication factors, the biggest barriers reported were "literature is not compiled in one place" (66.85%).

Conclusion: Nurses have serious barriers to using research results in clinics. These barriers range from individual characteristics of nurses to organizational factors. Therefore, focusing only on nurses is not the right approach in solving the problem. The only solution is to ensure secular, rational and scientific education for all individuals from the early childhood. Only in this way can both individual and from management organizational barriers arising can be overcome.

Keywords: Nursing research, research utilization, BARRIERS Scale

Öz

Amaç: Kanıta dayalı uygulama (KDU), konuyla ilgili mevcut en güncel araştırmalarla birlikte kaliteli kararlar almak ve kişisel klinik uzmanlığa dayalı hemşirelik bakımı sağlamak için bir yaklaşımdır. KDU, mortalite ve morbidite oranlarını önemli ölçüde etkileyebilir ve coğrafi farklılıkların azaltılmasında önemli bir rol oynayabilir. On-on beş yıl önce ülkemizde, sağlık hizmetlerinin kalitesini artırmak amacıyla "Sağlıkta Dönüşüm Programı" başlatılmıştır. Türkiye'deki Sağlıkta Dönüşüm Programı ile organizasyon yapısı ve sağlık bakım sisteminde köklü değişiklikler yapılmıştır. Bu değişim hemşirelerin araştırma kullanımındaki algıladıkları engelleri etkilemiş olabilir. Bu çalışmada, sağlık bakım sistemindeki değişiklikler sonrasında hemşirelerin araştırma kullanımının önündeki engellerin araştırılması amaçlanmıştır.

Materyal ve Metot: Bu araştırma tanımlayıcı tipte bir çalışmadır. Bu çalışma Şubat-Mayıs 2018 tarihleri arasında bir hastanede yapılmıştır. Çalışmaya katılmaya gönüllü olan ve formu eksiksiz tüm katılımcıların verileri değerlendirilmiştir. Örneklem seçiminde basit rastgele örnekleme yöntemi kullanılmıştır. Veriler, araştırmacılar tarafından geliştirilen anket formu ve Araştırma Kullanım Bariyer Ölçeği Türkçe versiyonu ile toplanmıştır. Funk tarafından geliştirilen ölçek toplam 29 madde ve 4 alt

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gruptan oluşmaktadır. Ölçeğin alt grupları hemşirenin bireysel özellikleri, organizasyonun özellikleri (kurumsal sınırlamalar, engeller) inovasyonun özellikleri (araştırmanın kalitesi) ve iletişim özellikleri (araştırmanın sunumu, erişilebilirliği) 'dir. Ölçekten alınan puan artıkça algılanan engel artmaktadır.

Bulgular: Bu çalışma 350 hemşire ile yapılmıştır. Katılımcıların çoğu lisans mezunudur. Ortalama olarak, hemşirelik mesleğinde 8,6 yıldır (1-30 yıl) çalışmaktadırlar. Hemşirelerin %75,15'inin araştırma hakkında bilgisi yoktu ve %73,42'si pratikte yapılacak değişikliklerin yararlarının sınırlı olduğuna inanıyordu. Organizasyon alt grubunda en yüksek skorlu engel "hekimlerin klinikte iş birliği yapmaması (%76,85) idi. İnovasyon alt grubunda ise belirlenen en yüksek engelin "hemşirelerin araştırma sonuçlarına inanıp inanmama konusunda yaşadıkları belirsizlik (%72,57) olduğu saptandı. İletişim alt boyutundaki bildirilen en büyük engel "araştırmaların tek merkezde toplanmamış (%66,85) olmasıydı.

Sonuç: Hemşirelerin klinikte araştırma sonuçlarını kullanmada ciddi engelleri vardır. Bu engeller, hemşirelerin bireysel özelliklerinden örgütsel faktörlere kadar uzanmaktadır. Bu nedenle, yalnızca hemşirelere odaklanmak, sorunu çözmede doğru yaklaşım değildir. Tek çözüm, erken çocukluk döneminden itibaren tüm bireyler için laik, rasyonel ve bilimsel eğitim sağlamaktır. Ancak bu şekilde hem bireysel hem de yönetimden kaynaklanan örgütsel engellerin üstesinden gelinebilir.

Anahtar Kelimeler: Hemşirelik araştırmaları, araştırma kullanımı, BARRIERS ölçeği

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Introduction

Evidence-based nursing (EBN) is an approach to making quality decisions and providing nursing care based upon personal clinical expertise in combination with the most current, relevant research available on the topic. It is accepted that evidence-based practices (EBP) are the key importance in offering the highest quality of health care and in achieving the best patient outcomes. EBP offers safer and much cost-effective maintenance compared to traditional applications. In addition, EBP can significantly affect mortality and morbidity rates and play an important role in the reduction of geographic differences. [1] At the same time, EBP allows the use of health care professionals of them to gain more power in their profession and to reduce burnout. Although there are so many positive outcomes, health care professionals are not able to provide continuity of the EBP and there are serious difficulties in the follow-up of the guidelines. But, in the developed countries, the insurance institutions in health care services are pay-back only for health applications supported by scientific evidence. In addition, payments for the complications that occurred when the evidence-based practice rules have been rejected. Besides, the patient and his family is able to reach the latest evidence on the website and this situation to being pressure.

The importance of EBP in terms of nursing began to be understood in the 1800's with Florence Nightingale. Nightingale, the precursor of evidence-based practices in the nursing profession, is commented on the events using statistical science. [2] Although it was not used as a term in the past, research's and critical thinking was emphasized in order to positively influence patient outcomes.

The founder and the greatest leader of the Republic of Turkey, Mustafa Kemal Ataturk, emphasized that "science forever should be our guide in life." Undergraduate nursing

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education was built on this fundamental principle in the Republic of Turkey and the first Turkey was initiated in 1955 and nursing was accepted as a scientific discipline then.

In general, policy makers usually do not consider nursing research as a necessary priority to reform the nursing services. Thus; nurses continue to have problems with political barriers to improve. In addition, our country research education usually takes part in the third year of undergraduate education (4 year) in the nursing schools. Most nurses receive research education that is technically oriented without any focus on research or implementation. However; there are not enough and clear data nursing research results in clinical practice and there is no any center that evaluates the articles published about nursing in terms of the level of evidence.

Ten/fifteen years ago in our country, "Health Transition Project" was launched to improve the quality of health care. Owing to The Health Transition Project organizational structure and system of health care in Turkey, nurses' perceived barriers on organizational support and competence could vary from other countries. Thus, it should be investigated to better understand nurses' current perceived barriers to research utilization. This study aims to investigate barriers of research utilization among nurses at a public hospital and radical changes of its health care system.

Materials and Methods

Study design

This study was planned as a descriptive research. This study was conducted between the dates of February-May 2018 at a Public Hospital in Turkey. All participant who volunteered to participate in the survey and who completed fully form were evaluated. Simple random sampling method was used. In this descriptive study, 85% of the universe was reached.

Setting and sample

All participants informed about the aim of the study, and the necessary written consent forms were obtained. The study was chosen among nurses at a public hospital. The total number of nurses working in the hospital was 416.

Participants who rejected to participate in the study (n = 56) and were permitted during the study (n = 10) were excluded from the study. As a result, the study was completed with 350 nurses.

Ethical consideration

The study was approved by the Ethics Committee of the Faculty of Health Karamanoglu Mehmetbey University.

Measurements/Instruments

The BARRIERS scale developed by Funk to evaluate the barriers and opportunities of nurses' use of research results in all countries of the world, has been used extensively. The BARRIERS Scale consists of 29 items and has been validated in various settings to assess barriers for research utilization and implementation of evidence-based practice. Funk et al.,[3] employed factor analysis in order to establish the reliability of the

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instrument. Funk et al. clustered these barriers around four factors.[3] These four factors were labeled;

(i) characteristics of the nurse

(ii) characteristics of the organization (setting barriers and limitations)

(iii) characteristics of the innovation (the quality of research)

(iv) characteristics of the communication (presentation and accessibility of the research)

The characteristics of the adapter measured the nurses' values, skills, and awareness of research. The characteristics of the organization measured the nurses' perception about limitations and barriers in the work setting. The characteristics of the innovation measured nurses' perceptions of the quality of research. The characteristics of the communication measured nurses' perceptions about the presentation and accessibility of the research. The internal consistency reliability of the tool was tested using Cronbach's alpha coefficient. Cronbach's alpha coefficients for the four factors on the BARRIERS Scale was found 0.65 to 0.80.

Respondents are asked to rate the extent to which they perceive each statement (item) as a barrier to the use of research findings. Items are rated on a four-point scale (1= to no extent, 2=to a little extent, 3= to a moderate extent, 4= to a great extent); respondents can also choose a no opinion alternative. In addition, a "no opinion" option was also offered; however, the "no opinion" responses were not included in the scoring (0=no opinion). The total points obtained from survey may change between 0 and 116. The maximum score in the survey is 116 (the range is between 29 and 116). The higher scores of the total survey and the article points imply the existence of more barriers in utilization of research among nurses. To find the relationships between BARRIERS scores and characteristics of nursing were performed using students t test.

Data collection/Procedure

The data were collected through a data collection form developed by the researcher and the BARRIERS Turkish Version was used to collect the data. The Turkish adaptation of the BARRIERS Scale was developed in 2007 by Yava and colleagues.[4] The adaptation study was carried out with a total of 631 nurses from 9 hospitals belonging to two different institutions in Ankara. The original Cronbach a coefficient for the subscales in Yava's research study from 0,64 to 0,78 and scale consists of 30 items.

The questionnaire form was given by the researcher to the nurses at the appropriate time. The nurses answered the form directly by reading it themselves. In order to prevent the nurses from being affected by the researcher and the management and to prevent possible bias, the forms were given and taken in closed envelopes.

Data analysis

The data was transferred manually to the computer, and SPSS trial version was used to evaluate the data after doing the necessary error analyses. Descriptive statistics (including means, standard deviations, frequencies, and percentages) were calculated for demographics and nurse characteristics. P-values less than 0.05 were considered as statistically significant.

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Results

A total of 350 nurses participated in this survey. The majority (*n*=217, 62%) of the respondents were female and the mean age was 30.90 years (range from 18 to 50 years).

The majority of the participants were university graduates (n=319, 91.14%). On average, they had been employed in the nursing profession for 8.60 years (range 1-30 years). Most nurses were not involved in scientific activity (*n*=225, 64.29%). The characteristics of the participants are shown in Table 1.

Table 1. Characteristics of Participants (n=350)

Age	n	%
18-30	173	49.43
31-40	169	48.28
41-50	8	2.29
Gender		
Female	217	62.00
Male	133	38.00
Educational level		
High School	31	8.86
University	319	91.14
Clinics		
Medical	210	60.00
Surgical	140	40.00
Like the clinic		
Yes	218	62.28
No	132	37.72
Role in the scientific activity		
Yes	125	35.71
No	225	64.29
Desire to participate in research		
Yes	193	55.14
No	157	44.86
Number of congress attented		
Never	153	43.71
Just once	197	56.29

The mean score and percentage of moderate/great barriers and no/little barriers each item is shown in Table 2. The higher mean BARRIERS scores show that nurses feel higher levels of barriers utilization research in practice. Items in Table 2 were listed according to the levels of barriers. The percentage of moderate/great barriers or no/little barriers was undertaken by dichotomizing the item response options. As shown in Table 2, the mean BARRIERSscores of each item varied from 2.34 to 3.17.

More than three-quarters of nurses (76.85%) mentioned that physicians will not cooperate with implementation and most of the nurses (75.15%) are unaware of the research. These 2 items had the highest BARRIERSscores, with means of 3.17±1.11 and

3.12±1.07, respectively. Furthermore, half of the respondents (53.43%) believed that implications for practice are made clear, and 52.86 % of the respondents agreed on research reports/articles are readily available. These 2 items had the lowest BARRIERS scores, with means of 2.34± 1.11 and 2.40±1.12, respectively.

Table 2. Nurses' Perceptions of Barriers to Research Utilization

Items	Mean ± (SD)	Moderate or great barriers, %	No/little Barriers %	No opinion %
Characteristics of the nurse				
1. The nurse is unaware of the research	3.12±1.07	75.15 (n=263)	23.42 (n=82)	1.43 (n=5)
2. The nurse feels the benefit of changing practice will be minimal	2.96±1.02	73.42 (n=257)	24.85 (n=87)	1.73 (n=6)
3. The nurse is isolated from knowledgeable colleagues with whom to discuss the research	2.90±1.09	71.42 (n=250)	26.00 (n=91)	2.58 (n=9)
4. There is no documented need to change practice	2.86±1.14	69.14 (n=242)	28.85 (n=101)	2.01 (n=7)
5. The nurse does not see the value of research for practice	2.83±1.13	68.57 (n=240)	30.00 (n=105)	1.43 (n=5)
6. The nurse is unwilling to change/try new ideas	2.81±1.14	66.57 (n=233)	31.43 (n=110)	2.00 (n=7)
7. The nurse sees little benefit for self	2.70±1.04	62.00 (n=217)	36.00 (n=126)	2.00 (n=7)
8. The nurse does not feel capable of evaluating the quality of the research	2.47±1.16	54.00 (n=189)	45.70 (n=160)	0.30 (n=1)
Characteristics of the organization/setting				
9. Physicians will not cooperate with implementation	3.17±1.11	76.85 (n=269)	21.15 (n=74)	2.00 (n=7)
10. The nurse does not feel she/he has enough authority to change patient care procedures	3.11±1.00	74.00 (n=259)	24.00 (n=84)	2.00 (n=7)
11. The nurses do not have time to read research	3.07±1.12	73.14 (n=256)	21.42 (n=75)	5.44 (n=19)
12. Administration will not allow implementation	3.06±1.09	72.00 (n=252)	25.15 (n=88)	2.85 (n=10)
13. The facilities are inadequate for implementation	2.98±1.13	71.14 (n=249)	27.43 (n=96)	1.43 (n=5)
14. Other staff are not supportive of implementation	2.98±1.00	69.15 (n=242)	26.85 (n=94)	4.00 (n=14)
15. The nurse feels results are not	2.88±1.15	68.57	28.85	2.58 (n=9)

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generalizable to own setting		(n=240)	(n=101)	
16. There is insufficient time on the job to implement new ideas	2.83±1.25	57.42 (n=201)	37.43 (n=131)	5.15 (n=18)
Characteristics of the innovation/research				
17. The nurse is uncertain whether to believe the results of the research	2.96±1.01	72.57 (n=254)	24.57 (n=86)	2.86 (n=10)
18. The research has not been replicated	2.86±1.07	66.85 (n=234)	30.57 (n=107)	2.58 (n=9)
19. The amount of research information is overwhelming	2.77±1.07	64.85 (n=227)	32.57 (n=114)	2.58 (n=9)
20. The conclusions drawn from the research are not justified	2.74±1.16	63.14 (n=221)	35.43 (n=124)	1.43 (n=5)
21. The research has methodological inadequacies	2.73±1.12	62.85 (n=220)	36.57 (n=128)	0.58 (n=2)
22. The literature reports conflicting results	2.62±1.13	58.57 (n=205)	40.00 (n=140)	1.43 (n=5)
23. Research reports/articles are not published fast enough	2.51±1.24	52.00 (n=182)	44.00 (n=154)	4.00 (n=14)
24. Research reports/articles are published in English	2.75±1.17	74.00 (n=259)	24.57 (n=86)	1.43 (n=5)
Characteristics of the communication/presentation				
25. The relevant literature is not compiled in one place	3.08±1.09	66.85 (n=234)	30.57 (n=107)	2.58 (n=9)
26. The research is not relevant to the nurse's practice	2.92±1.08	64.00 (n=224)	34.57 (n=121)	1.43 (n=5)
27. Statistical analysis is not understandable	2.60±1.08	56.00 (n=196)	41.42 (n=145)	2.58 (n=9)
28. The research is not reported clearly and readably	2.48±1.15	51.14 (n=179)	47.43 (n=166)	1.43 (n=5)
29. Research reports/articles are not readily available	2.40±1.12	47.14 (n=165)	52.56 (n=184)	0.30 (n=1)
30. Implications for practice are not made clear	2.34±1.11	46.57 (n=163)	51.14 (n=179)	2.29 (n=8)

For the organizational factors, the biggest barriers reported were "physicians will not cooperate with implementation" (76.85%). For the innovation factors the biggest barriers determined were "the nurse is uncertain whether to believe the results of the research (72.57%). The nurses 75.15 % did not know about research and (73.42%) believed that the practical changes would provide minimal benefit.

For the communication factors, the biggest barriers reported were "literature is not compiled in one place" (66.85%). The language barrier added to the scale was one of the important (74.00%) barriers.

The statistically significantly higher the BARRIERS score had the nurses who do not like in the clinic, who do not want to participate in research and who are not involved in scientific activity (Table 3).

Table 3. The Relationship of The Participants' Characteristics' Among Barriers to Research Utilization

	Characteristics' of participants		
	Like the clinic	**Want to participate in research**	**Role in the scientific activity**
Barriers to research utilization	Yes No Mean ± (SD) Mean ± (SD)	Yes No Mean ± (SD) Mean ± (SD)	Yes No Mean ± (SD) Mean ± (SD)
Characteristics of the nurse	24.2 ±7.79 24.9±5.83 F:0.28 p:0.579	24.0 ±7.55 24.9±7.20 F:0.16 p:0.486	22.5 ±7.33 25.4±7.28 F:0.50 p:0.002*
Characteristics of the organization	16.1±4.75 19.0±5.31 F:0.61 p:0.008*	16.1±4.52 17.9±5.53 F:4.21 p:0.004*	15.4±4.40 17.59±5.13 F:2.97 p:0.008*
Characteristics of the innovation	19.6±4.95 22.4±5.55 F:0.06 p:0.001*	19.9±4.66 20.8±5.90 F:2.21 p:0.361	18.3±4.74 21.2±5.09 F:0.52 p:0.001*
Characteristics of the communication	25.2±5.86 25.8±6.21 F:0.03 p:0.0657	25.5±5.57 25.3±6.47 F:0.51 p:0.806	22.9±6.20 26.8±5.26 F:0.51 p:0.001*

*Students t test p<0.05

Discussion

The Health Transition Project has been implemented in order to improve the quality of health care and to provide current / evidence-based health care ten/fifteen years ago in our country. In this study, the reflection of this project on nurses' approach to research process is determined. According to our results, the most important barrier to the utilization of study is "Do not physicians cooperate implementation" (%76.85). However, for the cooperation between physician and nurse; there are multifaceted effects such as the progress of treatment, patient safety, reduction of malpractice, and shortening of hospital stay. At the same time "Do not physicians cooperate implementation" was also most of important obstacles in the other studies.[5-11] Lacey, also found that physicians were cited as potentially obstructive in the implementation of nursing research. In such areas as wound dressing, preoperative preparation and positioning/mobilization of patients, she found that nurse's autonomy was restricted.[12] In Finland, Oranta has pointed out the barriers to research utilization from the point of view of Finnish registered nurses.[13] The main obstacle includes language of reports and lack of cooperation with the physicians. It is possible that in developed countries

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there are more co-operation between nurses, physicians and other health professionals. We can say in Turkey that lack of co-operation of physicians is an obstacle to research utilization. Turkey health care system, nursing services remained sub-ordinate of physicians for many years. In addition, the Heath Transformation Project has been further highlighted therapeutic health services and physicians. Therefore, nurses' care roles are pushed back into the background and collaboration with physician cannot be provided. In our routine, nurse is managed position and depends on physicians usually. Nevertheless, without systematic research it is not possible to generalize about nurse/ physician relationships in clinical areas in Turkey and how this affects the utilization of research.

In this study is determined the most important second barrier (organizational factors) as inadequate for implementation perceived barrier by nurses. Inadequate facilities perceived as the most important barriers by nurses all over the world, including Turkey. Studies conducted in Sweden, Australia, China, UK, Iran, Germany have been shown similar results.[9,10,14-16]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.[16]

In this study was determined "lack of authority" perceived barrier by nurses. A study by Buhaid et al., have shown that organizational barriers such as lack of authority to change practice to implement new ideas were perceived barriers by Bahrain nurses.[17] Wang et al., described the perception of barriers to and facilitators of research utilization by nurses in China and demonstrated that barriers related to the organizational, such as lack of authority and lack of time, were more influential than other barriers.[10]Also other studies in China showed that organizational factors such as lack of authority, and lack of cooperation of physicians, were perceived by nurses as major barriers to research utilization in their practice.[18,19] Similar results were observed among nurses in USA and Turkey.[20,21] Lack of authority may reflect an organization that has a traditional system of working, in which the nurses cannot develop their own job independently. In the traditional hierarchical structure top-down managerial system in Turkey health care system, managers and physicians have authority roles and expect nurses to do just their orders. Therefore, nurses' authority and independence are undermined.[10,17,21]There is a need to explore in-depth what nurses perceive autonomy to make changes in their practice, how this lack of autonomy is manifested and how it could be addressed.

In our study for the innovation factors the biggest barriers determined were "the nurse is uncertain whether to believe the results of the research" (72.57%). This barrier score is lower in western countries. The fact that it is one of the most important barriers in the eastern countries may be due to the cultural structure difference. In our country, especially in recent years, there is a clear lack of belief research and its effects. However, the current situation is valid not only in this study for the nursing profession but also for the whole Turkish people. When the ABIDE (Monitoring and Evaluation of Academic Skills) results of were evaluated in 2019 (very very low) in our country, it was determined that we remembered the information since a childhood has not creative applications with current information.[22] Indeed, a sudden change cannot be made at the university level and beyond. In this study it was determined that the rates of follow-up for nursing research (25%) were quite low. Cronenwet stated that nurses

should be aware of professional publications in order to reflect the results of the research.[23] According to Luker, 'the ability to provide high-quality care to service users is to a great extent dependent on the availability of a well-educated and clinically competent nursing workforce'.[24] In our country, there is a very sharp distinction between the "clinician nurse" and the "academician nurse". Academician nurses must be following literature and do research to have academic progress. But, the academician nurse has almost no connection with the patient/healthy individuals. Clinician nurses on the other hand give direct care service to patients / healthy individuals but they do not frequently follow-up and do research. However, no habit of reading is not only valid for the nursing but also for the whole Turkish society. According to Turkey Reading Culture Map (2019) we only read 7.2 books per year and these books are selected randomly and irregularly (45.3%).[25] Furthermore, it is emphasized that people should not be trusted with educated people by political authority. And ignorance is blessed at every opportunity. Our country is rapidly moving away from Atatürk's revolutions and giving a high premium to not reading and to not doing research. For this reason, we need to make a fundamental change in our mind.

In this context, the habit of reading books and nursing publication follows are rather limited. A lot of previous studies was determined as "unaware of the research", one of the five most important barrier compatible with in this study.[16,26,27] However, it has been stated that nurses in Iran, Western countries and this study believe that research outputs are not relevant to their everyday care. At the same time research reports must be simple, clear and concise manner to facilitate their comprehensibility and rapid transfer into daily practice.

In these research articles published in medical, nursing and other research journals (8.7%) were the least frequently used sources of information. This result is in accordance with other studies.[28-31] There was no relationship use of research-based evidence as a source of information among characteristics of nurses. In a systematic review, study contrary to our findings, it was determined that nurses rely on informal resources as source of information.[32] Unreliability of sources of information can also prevent nurses from utilization research results.

Interestingly, although the rate of role in scientific activity is low, most of the nurses are eager to take part in research in this study. Positive attitude toward research is an individual determinant of research utilization by nurses.[28] A study by Mehrdad[9] 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; which is consistent with the findings of studies by Parahoo[11] et al., Hundley[33] et al., and Heydari[16] et al.

In parallel to the findings our study lack of time to read research was identified as the top three greatest barriers in a lot of previous surveys.[10,34] Factors contributing to lack of time include the nurse shortage, the outdated and unreasonable national nurse-to-bed ratio standards for measuring the adequacy of staffing level in Turkey and nurses undertaking various non-nursing tasks. Lack of time to read reflects the serious and deep-seated problem that exists in Turkey as well as other hospitals all over the world. Time to read, evaluate, analyze, disseminate and implement research is very limited for

nurses everywhere. To perform this activity, there is a need for more time than expected for various reasons (such as foreign language). [1,7,9,19,27,33]

It is understandable that language barrier was identified as important barriers, given English being not the mother tongue in Turkish. It was listed as a major barrier in other non-English-speaking countries, such as Finland, Sweden, Greece, China and Norway. [10,11,13,33] Probably nurses are not familiar with scientific terminology and English generally, so it is difficult for a portion of nurses to understand the research finding in another language from their native language.[33] Most of the high-quality nursing studies have been published in English language journals, while most of Turkey nurses' proficiency in English language is relatively low. This fact highlights the substantial need for support of nurses to develop their English language skills.

However, it has been stated that nurses in Iran, Western countries and this study believe that research outputs are not relevant to their everyday care. At the same time research reports must be simple, clear and concise manner to facilitate their comprehensibility and rapid transfer into daily practice.[9]

In our study, it was determined that the satisfaction level of nurses working in clinics is a very important factor. In our country, nurses participate in the profession without branching. These nurses are assigned to the clinic in which clinics are needed. The nurses who do not like clinic can prevent from to research, research utilization and improving the quality of care. In this study's the average BARRIERS Scale total score were high compared to earlier studies done among nurses, using the same scale. [5-11,17,33] The high average score in the study is not surprising. Generally, the Turkey national health system, particularly nursing care system, is not research utilization facilitating environments. The results of the present study showed that organization-related factors were the major reported obstacles among Turkish nurses. Similar results have been found by several studies conducted among nurses in different countries.[10,11,16,17]

Nurses have serious barriers to using research results in clinics. These barriers range from individual characteristics of nurses to organizational factors. Therefore, focusing only on nurses is not the right approach in solving the problem. The only solution is to ensure secular, rational and scientific education for all individuals from the early childhood. Only in this way can both individual and from management organizational barriers arising can be overcome.

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