

Barriers and Facilitators to Research Utilization as Perceived by academic staff and head nurses

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Abstract: The effort to translate research to the practice setting is an ongoing and challenging endeavor. Providing safe and effective patient care, the nurse must help bridge the gap that exists between research findings and its application to practice. This study aims to identify barriers and facilitators to research utilization in Mansoura and Damanhour Universities hospitals as perceived by academic staff, nurses educators and head nurses. The study sample consists of all academic staff in nursing faculty in Mansoura university (25) and Damanhour university (25) and all head nurses in Mansoura university hospitals (167) and Damanhour medical institute hospital (77). Tool was used for data collection namely: Barriers and facilitators to research utilization. The study findings indicated that nurse related barriers were ranked as a greatest barriers in Mansoura university followed by setting barriers and then research related barriers. While, in Damanhour University, presentation and accessibility of the research were ranked as a greatest barriers followed by setting barriers, qualities of the research and then nurse related barriers. It was recommended that conducting trainings and workshops to raise nurse's awareness on RU, research process and methodology, significant recent research articles should be translated into Arabic and should be presented in a clear and understandable ways. Closer ties between researchers and nurses staff through scientific workshops, settings should be given adequate support to RU through Providing libraries at workplace improve work condition through decreasing work load, increase resources, availability of time to read researches and try to implement new ideas.

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1. Introduction

Every year millions of researches are conducted and findings. Results from such researches are disseminated through various media/ publications. Often these findings only end up in libraries, drawers and the pages of well-designed journals without being effectively used. Research utilization is vital to promoting education, where educational practice continues to grow in complexity and educators have greater responsibility and accountability for learning. It fosters movement from innovation into practice. However, information about research activities and barriers to research utilization in education and clinical is limited⁽¹⁾. The terms RU and evidence-based practice (EBP) are often used interchangeably⁽²⁾.

Evidence-based nursing care is based on the assumption that integrating research findings into clinical practice and increase the quality of healthcare and patient outcomes. Despite efforts to increase research use, the implementing, and translating its findings into clinical practice are remains a challenge⁽³⁾. A strategy commonly recommended for bridging the gap between research and practice is to identify barriers to practice change and implement strategies that account for identifying its barriers^(4,5). Therefore, implementation strategies should be tailored

according to the context of the specific barriers which were identified and what interventions are effective for overcoming these barriers^(6,7).

To provide safe and effective patient care, the nurse must help bridge the gap that exists between research findings and application to practice. The first step in this process may involve the application of knowledge from individual research findings to the clinical setting. This process is commonly referred to as research utilization (RU)⁽²⁾.

One assumption to account for this persistent gap between what is known and what is done in practice is that professionals face diverse types of barriers that hamper in changing practice. Although considerable improvements have been made in the dissemination of research a gap still persists between the development of useful research findings and their utilization. Little or no researches have been conducted in the area of education⁽¹⁾. Also, patient care and outcomes could be significantly improved if knowledge gained from health research and is better translated into practice. Barriers to implementing research in healthcare exist at many levels including the individual practitioner, the clinical team, the practice setting and the organizational context⁽²⁾.

On other hand there have been international efforts to identify barriers to research utilization, as

well as to identify facilitators. There are several barriers to research utilization as lack of time, staff, access to research information, and research knowledge, lack of support to change existing practice, lack of knowledge of research terminology, and inability to understand how to apply findings to practice^(8,9). Nurses considered lack of authority and the inaccessibility of research reports to be major barriers to implementing research findings in practice and need for collaboration among managers, academics and practitioners to overcome such barriers⁽¹⁰⁾. So, the problem of utilization of research findings in nursing is usually characterized as why nurses in clinical areas do not modify their practice in response to the new knowledge that has been generated from nursing research findings⁽¹¹⁾.

The major barriers to research utilization were that the research is not readily available along with inadequate facilities for implementation of research findings, lack of competent colleagues with whom to discuss research, lack of time for reading and implementing research findings and the nurse's lack of authority in the organization. The nurses, who had studied research methods in their basic nursing education, seemed to perceive fewer barriers than those who had not⁽¹²⁾. Other barriers described refer to organizational and leadership issues, lack of support, and feedback and presentation of research. These barriers are hindering research utilization⁽¹³⁾.

Moreover, understanding barriers to RU may help to facilitate research use and movement toward the broader application of Evidence Based Practice (EBP). One strategy to enhance research use and change current practice is to identify barriers and then implement tailored interventions to reduce these barriers⁽⁹⁾.

The facilitating factors most frequently suggested as diverse models of education to increase nurses knowledge of research methods and to develop skills in evaluating research findings. The allocation of resources for education and implementation of research findings in clinical practice, in addition to special positions in clinical practice for nurses with scientific qualifications were also suggested⁽¹³⁾. There are some factors that facilitate the use of research as administrative commitment and support, knowledge of the research process, availability of research consultants, favourable research attitude, affiliation with a university, and financial resources⁽¹⁴⁻¹⁶⁾. As well as closer ties between academic and service institutions may improve research utilization⁽¹⁷⁾.

while nursing as a profession and as an academic discipline is concerned with the generation of substantive knowledge and its uses to serve people, 'the new challenge is for nurses to use

research methods that can clearly explicate the essential nature, meanings and components of nursing so that nurse clinicians can use this knowledge in a deliberate and meaningful way⁽¹²⁾. The problem of utilization of research findings in nursing is usually characterized in terms of why nurses in clinical areas do not modify their practice in response to the new knowledge that has been generated.

Research Questions:

1. What are barriers to Research Utilization (RU) in Mansoura and Damanhour Universities hospitals as perceived by academic staff, and head nurses?
2. What are facilitators to Research Utilization (RU) in Mansoura and Damanhour Universities hospitals as perceived by academic staff, and head nurses?

Aim of study

Identify barriers and facilitators to research utilization in Mansoura and Damanhour University hospitals as perceived by academic staff, and head nurses.

2. Materials and Methods

Research Design:

Cross sectional Descriptive design

Setting;

The study was conducted at:

- Faculty of Nursing in Mansoura and Damanhour Universities. Mansoura Faculty of Nursing have 141 academic staff and consisted of 8 departments namely: Nursing Administration, Obstetrics, Pediatric, adult Nursing, Nursing Community, Critical, Psychiatric and Geriatric department. While, Damanhour Faculty of Nursing have 44 academic staff and consisted of 9 departments namely: Nursing Administration, Obstetrics, Pediatric, Nursing Education, Nursing Community, Medical Surgical, Critical, Psychiatric and Geriatric department).
- Mansoura University Hospitals and Damanhour Medical National Institute Hospital, both that provide a wide spectrum of health services. Mansoura University hospitals total bed capacity is 2533 beds and hospitals included in this study were Main Mansoura University Hospital with bed capacity 1860 beds, Emergency hospital with bed capacity 107 bed, Medical Specialized hospital with bed capacity 200 beds and Pediatric hospital with bed capacity 366 beds. While, Damanhour Medical National Institute Hospital capacity is 600 beds.

Sample

- The subjects of the present study included: All academic staff working at faculties of Nursing in Mansoura University 25 academic staff (23 having Doctorate degree & 2 more). While Damanhour University 25 academic staff (15 have Doctorate and 10 have Master degree).
- All head nurses working in Mansoura University Hospitals (167) and Damanhour Medical National Institute Hospital of (77). All of them having bachelor degree and having minimum one year of experience in the setting of work.

Tool of data collection

It included two parts;

Part (I): **Personal characteristics** such as: age, years of experience, education qualification and place of work.

Part (II) **Barriers and Facilitators to research utilization questionnaire**. It was developed by Funk⁽¹⁸⁾. It was used to identify barriers and facilitators to RU in selecting setting as perceived by academic staff and head nurses. It consists of two sections; one of them is for barriers (29 statements) and the other is for facilitators (9 statements) to RU.

Each barriers or facilitators statements included in these sections was measured on a five point likert scale representing the extent to which the items is a barrier or a facilitator to RU (1= no extent, 2 = little extent, 3 = moderate extent, 4 = great extent). The higher the score, the greater the perceived barriers or facilitator.

Twenty-nine of the barrier and eight of the facilitators included in each section are classified into the main four categories; (a) Characteristics of the adopter (the nurse's own research values, skills, and awareness); (b) Characteristics of the organization (setting barriers and limitations); (c) Characteristics of the innovation (qualities of the research); and (d) Characteristics of the communication (presentation and accessibility of the research). The items were randomly arranged throughout the questionnaire without identification of the Factor titles. In addition for two statements (number 30 of barriers & 10 of facilitator) to ask subject for adding any other barriers or facilitators from his/her point of view.

Methods:

- A permission to conduct the study was obtained from the Dean of Mansoura and Damanhour Faculty of Nursing and director of University Hospitals in Mansoura and Damanhour Universities.
- All participants interviewed for explaining the purposes of the study, and they have the right to

withdrawal from the study any time during the study. Oral consent to participate was assumed by attendance of filling questionnaire sheet.

- Tool of data collection was translated into Arabic and was tested for its content validity and relevance by a jury consisted of 6 experts from different departments at nursing faculties in Mansoura & Damanhour Universities. The necessary modifications were performed.
- A pilot study was conducted on 10% of participants (whom are not included in the study) to evaluate the clarity and applicability of the tool and necessary modification were done based on their responses.
- Using Cronbach's alpha to determine reliability and the internal consistency of the tool and it was 0.82.
- The questionnaire was distributed by the researchers; each sheet took 15- 20 minutes to be answered. Data collected in two months starting November, 2010.

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 13. For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparison between two groups and more was done using Chi-square test (X²). For comparison between means of two groups t-test was used. Significance was adopted at $p < 0.05$ for interpretation of results of tests of significance.

3. Result

Table 1 Show academic staff and head nurses at Mansoura University in comparison to Damanhour University regarding personal characteristics. It was observed that high percentage of academic staff in Mansoura University 68% were in the age group (40-50) with mean age (40.80±3.40), and mean years of experience (4.28±3.51). Majority 92% were having doctorate. While high percentage of academic staff in Damanhour University 60% were in the age group (30-40) with mean age (34.28±5.05), and mean years of experience (11.16±5.08). Also, high percent of them 60% were having doctorate. Head nurses in Mansoura University 49.1% were in the age group (20-30) their mean age was (30.81±5.61), with mean experience was (8.77±4.90). All head nurses having B.Sc in nursing and 35.9% were working in Main hospital. While head nurses in Damanhour University 48% were in the age group (30-40) their mean age was (36.15±5.74), with mean experience was (13.51±6.21). All head nurses having B.Sc in nursing and working in Main education hospital in Damanhour.

Table 2 Represent mean scores of barriers to research utilization between academic staff and head

nurses at Mansoura University in comparison to Damanhour University. The table reveal that nurses barriers (nurses own research values, skills and awareness) mean scores 3.49 ± 0.31 was perceived by academic staff in Mansoura and Damanhour university as a greatest barrier followed by setting barriers 3.44 ± 0.25 , research barriers 3.18 ± 0.38 and presentation and accessibility of the research barrier 2.93 ± 0.13 . While head nurses in Mansoura and Damanhour universities were perceived barriers of presentation and accessibility of the research as a greatest barrier (3.41 ± 0.29) followed by research barriers 3.36 ± 0.21 , setting barriers 3.36 ± 0.21 and nurses barriers 3.35 ± 0.25 .

Table 3 represent barriers to research utilization perceived as great or moderate among study subjects at Mansoura University in comparison to Damanhour University. Regarding nurses barriers, there were no statistical significant different among academic staff in Mansoura and Damanhour University except two barriers (nurse is isolated and nurse is unwilling to change) $P = 0.010$ & 0.0002 respectively. All academic staff in Mansoura perceived these barriers as a greatest barriers in relation to 72%, 52% of academic staff in Damanhour. There were significant different in most barriers perceived by head nurses in Mansoura & Damanhour except two barriers (nurse is not capable of evaluating the quality of research and nurse is isolated) $P = .927$ & 0.087 .

Also setting barriers, there were no statistical significant different among academic staff in both University except two barriers (Facilities are inadequate 96% in relation to 72% and nurse does not have enough authority, 92% in relation to 60%) $P = 0.049$ & 0.033 respectively. There were no statistical significant different among head nurses in both Universities except three barriers (physician uncooperative 84.4% in relation to 42.8%, nurse does not have time 99.4% in relation to 85.7% and nurse does not have enough authority, 80.8% in relation to 100%) $P = 0.0001$.

Research barriers, there were significant different among academic staff in both Universities in two barriers (methodological inadequacies 96% to 56% and nurse is uncertain the result of research 100% to 16%. Regarding head nurses in both Universities, there were significant different in three barriers (research report are not published fast 89.2% to 100%, methodological inadequacies 85% to 100% and the literature reports conflicting result 83% to 41% respectively).

Presentation barriers, there were no significant different among academic staff in Mansoura & Damanhour. While there were significant different among head nurses in Mansoura & Damanhour in all barriers except two barriers (Literature is not

compiled in one place and implication are not made clear 99% to 100%.

Table 4 Show ranking of barriers to research utilization & percentages of subjects who perceive barriers as great & moderate in Mansoura University. The table show that the nurse barrier was ranked as a greatest barrier 88% followed by setting barrier 87.83%, presentation & accessibility of the research 85.40% and quality of the research 79.50%. the barrier of (the nurse does not see the value of research for practice) was ranked as a greatest barrier in nurse barriers 97.91% and the lowest barrier was (the nurse is unwilling to change or try new ideas) 80.20%. Setting barriers, (the nurse does not have time to read research) was ranked as a greatest barrier 97.39% and the lowest barrier was (there is insufficient time on the job to implement new ideas 74.47%). (Literature is not compiled in one place 96.35%) was ranked as a greatest barrier for presentation of research and the lowest barrier was (research report are written in English 67.7%). Research barriers, (the nurse is uncertain whether to believe the results of the research) was ranked as a greatest barrier 90.1% and the lowest was (the research has not been replicated 61.97%)

Table 5 Represent ranking of barriers to research utilization & percentages of subjects who perceive barriers as great & moderate in Damanhour University. The table show that presentation & accessibility of the research was ranked as a greatest barrier 77.71% followed by setting barrier 77.33%, quality of the research barrier 77.1%. and the nurse barrier 66.68%. Regarding barriers of presentation & accessibility of the research (implications for practice are not made clear) was ranked as a greatest barrier 93.10% and the lowest barrier was (the research is not reported clearly) 53.90%. While for the setting barriers, (facilities are inadequate) was ranked as a greatest barrier 93.10% and the lowest barrier was (physicians uncooperative 50%). Research barriers, (research reports/articles are not published fast enough) was ranked as a greatest barrier 94.10% and the lowest was three barriers have the same percent 68.60% (the research has not been replicated, the literature reports conflicting result & the nurse is uncertain whether to believe the results of the research). Regarding nurse barrier (the nurse is isolated 82.40%) was ranked as a greatest barrier and the lowest barrier was (the nurse is unwilling to change or try new ideas 45.1%).

Table 6 Show academic staff and head nurses at Mansoura University in comparison to Damanhour University regarding facilities to research utilization. The table reveal statistical significant differences among academic staff in both Universities regarding facilities to research utilization ($P = 0.0004$). There

was statistical significant differences among subjects at Mansoura University ($P = 0.001$) and highly significant differences among subjects in Damanhour University ($P = 0.0001$). The highest percent of academic staff in Mansoura university 80% and head nurses in both universities (65.8% , 77.9%) were perceived the facilities to research utilization as to great extent and the lowest percent of a subjects in study setting were perceived the facilities as to little extent. The majority of academic staff in Damanhour university 60% were perceived facilities as to moderate extent.

Table 7 Ranking of facilities to research utilization & percentages of subjects who perceive

facilities as great & moderate in Mansoura University in comparison to Damanhour University. Subjects in Mansoura were ranked improving nurse attitudes as a greatest facilities 96.4% followed by improve research knowledge 90.81% and the lowest facilities was cooperative & supportive colleagues 78.9%. While subjects in Damanhour university were ranked improving accessibility to research literature 93.1% as a greatest facilities followed by cooperative & supportive colleagues 90.20% and the lowest facilities was increasing time available for research activities 67.60%.

Table (1): Personal characteristics of academic staff and head nurses at Mansoura University in comparison to Damanhour University.

Variables	Academic staff				Head nurses			
	Mans. Univ. (n=25)		Damnh. Univ. (n=25)		Mans. Univ. (n=167)		Damnh. Univ. (n=77)	
	N	%	n	%	n	%	n	%
Age:								
<20-	0	0	5	20.0	82	49.1	7	9.1
30-	8	32.0	15	60.0	71	42.5	37	48.0
40+	17	68.0	5	20.0	14	8.4	33	42.9
Range	37-50		25-42		22-48		26-43	
Mean±SD	40.80±3.41		34.28±5.05		30.81±5.61		36.15±5.74	
Experience years:								
Range	1-15		5-20		1-21		4-21	
Mean±SD	4.28±3.51		11.16±5.08		8.77±4.90		13.51±6.21	
Educational qualification								
Bachelor	-	-	-	-	167	100	77	100
Master	-	-	10	40.0	0	0	0	0
Doctorate	23	92.0	15	60.0	0	0	0	0
More	2	8.0	0	0	0	0	0	0
Hospital of work:								
Main unit					60	35.9	0	0
Emergency					23	13.8	0	0
Medical					29	17.4	0	0
Pediatric					32	19.2	0	0
National Institute In Damanhour					23	13.8	77	100

Table (2): Mean scores of barriers to research utilization between Academic staff and head nurses at Mansoura University in comparison to Damanhour University.

Barriers to research utilization	Academic staff		Head nurses	
	Mans. Univ. (n=25)	Damnh. Univ. (n=25)	Mans. Univ. (n=167)	Damnh. Univ. (n=77)
	Range	Range	Range	Range
	Mean±SD	Mean±SD	Mean±SD	Mean±SD
The nurse own research values, skills & awareness	3-4 3.49±0.31	2-3 2.87±0.26	3-4 3.35±0.25	2-4 2.84±0.54
Setting barriers & Limitations	3-4 3.44±0.25	2-3 2.86±0.22	3-4 3.36±0.21	2-4 3.28±0.40
Qualities of the research	3-4 3.18±0.38	2-3 2.67±0.35	3-4 3.36±0.21	3-4 3.36±0.45
Presentation & accessibility of the research	2-3 2.93±0.13	2-3 2.62±0.27	3-4 3.41±0.29	2-4 3.47±0.53

Table (3): Barriers to research utilization perceived as great or moderate among study subjects at Mansoura University in comparison to Damanhour University.

Barriers to research utilization	Academic staff				P	Head nurses				P
	Mans. Univ. (n=25)		Dammh. Univ. (n=25)			Mans. Univ. (n=167)		Dammh. Univ. (n=77)		
	n	%	n	%		n	%	n	%	
<u>The nurse own research values, skills & awareness:</u>										
1-The nurse does not feel capable of evaluating the quality of the research.	20	80.0	16	64.0	0.344	144	86.2	66	85.7	0.927
2-The nurse sees little benefit for himself or herself.	16	64.0	12	48.0	0.393	141	84.4	55	71.4	0.028*
3-The nurse feels the benefits of changing practice will be minimal.	24	96.0	19	76.0	0.98	134	80.2	33	42.8	0.0001*
4-The nurse is isolated from knowledgeable colleagues with whom to discuss the research.	25	100	18	72.0	0.010*	156	93.4	66	85.7	0.087
5-The nurse is unaware of the research.	24	96.0	19	76.0	0.098	157	94.0	55	71.4	0.0001*
6-The nurse is unwilling to change or try new ideas.	25	100	13	52.0	0.0002*	129	77.2	33	42.8	0.0001*
7-There is not a documented need to change practice.	21	84.0	18	72.0	0.495	148	88.6	55	71.4	0.002*
8-The nurse does not see the value of research for practice.	24	96.0	22	88.0	0.609	164	98.2	44	57.1	0.0001*
<u>Setting barriers & Limitations:</u>										
1-There is insufficient time on the job to implement new ideas.	18	72.0	12	48.0	0.149	125	74.8	55	71.4	0.683
2-Physicians will not cooperate with implementation.	22	88.0	18	72.0	0.289	141	84.4	33	42.8	0.0001*
3-The facilities are inadequate for implementation.	24	96.0	18	72.0	0.049*	159	95.2	77	100	0.059
4-The nurse does not have time to read research.	21	84.0	20	80.0	1.000	166	99.4	66	85.7	0.0001*
5-Other staff members are not supportive of implementation.	25	100	21	84.0	0.110	143	85.6	66	85.7	0.858
6-The nurse does not feel he or she has enough authority to change patient care procedures.	23	92.0	15	60.0	0.033*	135	80.8	77	100	0.0001*
7-The nurse feels results are not generalizable to own setting.	22	88.0	16	64.0	0.098	153	91.6	66	85.7	0.236
8-Administration will not allow implementation.	25	100	16	64.0	0.002*	127	76.0	55	71.4	0.540
<u>Qualities of the research:</u>										
1-Research reports /articles are not published fast enough.	19	76.0	19	76.0	1.000	149	89.2	77	100	0.006*
2-The research has methodological inadequacies.	24	96.0	14	56.0	0.003*	142	85.0	77	100	0.0008*
3-The literature reports conflicting results.	21	84.0	15	60.0	0.167	140	83.8	55	71.4	0.038*
4-The research has not been replicated.	16	64.0	15	60.0	1.000	103	61.7	55	71.4	0.181
5-The nurse is uncertain whether to believe the results of the research.	25	100	4	16.0	0.0001*	148	88.6	66	85.7	0.665
6-The conclusions drawn from the research are not justified.	15	60.0	20	80.0	0.217	114	68.3	55	71.4	0.727
<u>Presentation & accessibility of the research:</u>										
1-The relevant literature is not compiled in one place.	19	76.0	14	56.0	0.232	166	99.4	77	100	1.000
2-Research reports/articles are not readily available.	17	68.0	15	60.0	0.768	148	88.6	55	71.4	0.002*
3-Implications for practice are not made clear.	19	76.0	18	72.0	1.000	166	99.4	77	100	1.000
4-Research reports/ articles are written in English, which constitutes a barrier.	17	68.0	13	52.0	0.386	113	67.7	77	100	0.0001*
5-The research is not reported clearly or easy to read.	17	64.0	11	44.0	0.154	124	74.2	44	57.1	0.011*
6-Statistical analyses are not understandable.	16	60.0	20	80.0	0.344	152	91.0	55	71.4	0.0002*
7-The research is not relevant to the nurse's practice.	15	60.0	13	52.0	0.776	159	95.2	66	85.7	0.020*

*Significant ($P < 0.05$)

Table (4): Ranking of barriers to research utilization & percentages of subjects who perceive barriers as great & moderate in Mansoura University

Ranking	Barriers to research utilization	%	Total
	Barrier I: The nurse own research values, skills & awareness		
1	-The nurse does not see the value of research for practice.	97.91	88.01%
2	-The nurse is isolated from knowledgeable colleagues with whom to discuss the research.	94.27	
3	-The nurse is unaware of the research	94.27	
4	-There is not a documented need to change practice.	88.00	
5	-The nurse does not feel capable of evaluating the quality of the research..	85.41	
6	-The nurse feels the benefits of changing practice will be minimal.	82.24	
7	-The nurse sees little benefit for himself or herself.	81.77	
8	-The nurse is unwilling to change or try new ideas.	80.20	
	Barrier II: Setting barriers & Limitations		
1	-The nurse does not have time to read research.	97.39	87.83%
2	-Physicians will not cooperate with implementation.	95.43	
3	-The facilities are inadequate for implementation	95.31	
4	-The nurse feels results are not generalizable to own setting.	91.14	
5	-Other staff members are not supportive of implementation.	87.5	
6	-The nurse does not feel he or she has enough authority to change patient care procedures.	82.29	
7	-Administration will not allow implementation.	79.16	
8	- There is insufficient time on the job to implement new ideas.	74.47	
	Barrier III: Presentation & accessibility of the research		
1	-The relevant literature is not compiled in one place.	96.35	85.41%
2	-Implications for practice are not made clear	96.35	
3	.-The research is not relevant to the nurse's practice.	90.62	
4	-Statistical analyses are not understandable.	87.5	
5	-Research reports/articles are not readily available.	85.93	
6	-The research is not reported clearly or easy to read.	73.43	
7	-Research reports/ articles are written in English, which constitutes a barrier.	67.7	
	Barrier IV : Qualities of the research		
1	-The nurse is uncertain whether to believe the results of the research.	90.1	79.50%
2	-Research reports /articles are not published fast enough.	87.5	
3	-The research has methodological inadequacies.	86.45	
4	-The literature reports conflicting results.	83.85	
5	-The conclusions drawn from the research are not justified.	67.51	
6	-The research has not been replicated.	61.97	

The barriers have been arranged from a greatest barriers to the lowest barriers according to subjects response

Table (5): Ranking of barriers to research utilization & percentages of subjects who perceive barriers as great & moderate in Damanhour University

Ranking	Barriers to research utilization	%	Total
	Barrier I: Presentation & accessibility of the research		
1	-Implications for practice are not made clear.	93.10	77.71%
2	.-The relevant literature is not compiled in one place	89.20	
3	-Research reports/ articles are written in English, which constitutes a barrier.	88.20	
4	.-The research is not relevant to the nurse's practice	77.50	
5	.-Statistical analyses are not understandable	73.50	
6	.-Research reports/articles are not readily available.	68.60	
7	.-The research is not reported clearly or easy to read.	53.90	
	Barrier II: Setting barriers & Limitations		
1	-The facilities are inadequate for implementation	93.10	77.33%
2	-The nurse does not feel he or she has enough authority to change patient care procedures	90.2	
3	-Other staff members are not supportive of implementation.	85.30	
4	.-The nurse does not have time to read research	84.30	
5	.-The nurse feels results are not generalizable to own setting.	80.40	
6	-Administration will not allow implementation	69.60	
7	- There is insufficient time on the job to implement new ideas.	65.70	
8	-Physicians will not cooperate with implementation.	50.00	
	Barrier III: Qualities of the research		
1	-Research reports /articles are not published fast enough.	94.10	77.1%
2	- The research has methodological inadequacies.	89.20	
3	-The conclusions drawn from the research are not justified	73.50	
4	.-The literature reports conflicting results.	68.60	
5	.-The research has not been replicated.	68.60	
6	-The nurse is uncertain whether to believe the results of the research	68.60	
	Barrier IV: The nurse own research values, skills & awareness		
1	-The nurse is isolated from knowledgeable colleagues with whom to discuss the research.	82.40	66.68%
2	-The nurse does not feel capable of evaluating the quality of the research.	80.40	
3	-The nurse is unaware of the research.-	72.50	
4	-There is not a documented need to change practice.	71.60	
5	-The nurse sees little benefit for himself or herself.	65.70	
6	The nurse does not see the value of research for practice.	64.70	
7	-The nurse feels the benefits of changing practice will be minimal.	51..00	
8	-The nurse is unwilling to change or try new ideas.	45.10	

The barriers have been arranged from greatest barriers to the lowest barriers according to subjects response

Table (6): Academic staff and head nurses at Mansoura University in comparison to Damanhour University regarding facilities to research utilization.

Facilities to research utilization	Academic staff				X ² P	Head nurses				X ² P
	Mans. Univ. (n=25)		Damnh. Univ. (n=25)			Mans. Univ. (n=167)		Damnh. Univ. (n=77)		
	n	%	n	%		n	%	n	%	
-Not helpful	0	0	0	0	15.71 0.0004*	13	7.8	8	10.4	6.75 0.080
-To little extent	1	4.0	4	16.0		16	9.6	3	3.9	
-To moderate extent	4	16.0	15	60s.0		28	16.8	6	7.8	
-To great extent	20	80.0	6	24.0		110	65.8	60	77.9	
X ²	Mans. Univ.	22.714 0.001*								
P	Damnh. Univ.	40.09 0.0001*								

*Significant (P<0.05)

Table (7): Ranking of facilities to research utilization & percentages of subjects who perceive facilities as great & moderate in Mansoura University in comparison to Damanhour University

Facilities	Mansoura University		Damanhour University	
	Ranking	%	Ranking	%
-Improving nurses' attitudes	1	96.40	5	87.30
- Improving research knowledge	2	90.81	6	84.30
- Increasing time available for research activities	3	90.71	9	67.60
-Improving economic resources	4	88.51	3	89.20
- Enhancing administrative support and encouragement	5	88.02	8	82.40
- More employees/sufficient staffing	6	88.01	7	84.30
- Research nurses	7	86.92	4	89.20
- Improving accessibility to research literature	8	85.82	1	93.10
- Cooperative and supportive colleagues	9	78.90	2	90.20

The facilities have been arranged from greatest facilities to the lowest according to subjects response.

4. Discussion

Identification of barriers and facilitators to research utilization is useful potentially to overcome barriers, enforce facilitators and this could ultimately improve nursing practice. Research utilization and quality improvement have often been employed as vehicles for implementing new knowledge and development in health care if a research based practice is desired, research must be an integrated part of the clinician`s ideas, rules and understanding⁽¹⁹⁾. Therefore this study was conducted to assess barriers and facilitators to research utilization as perceived by academic and head nurses in Mansoura and Damanhour University hospital.

The main finding of the present study showed that the respondents in Mansoura University ranked nurse related barriers as the greatest barriers 88.01% followed by setting barriers 87.83% and then research related barriers. While, the respondents in Damanhour University ranked presentation and accessibility of the research as a greatest barriers 77.71% followed by setting barriers 77.33%, qualities of the research and then nurse related barriers.

The majority of subjects in Mansoura and Damanhour Universities reported that most barriers were: the nurse is isolated from knowledgeable colleagues with whom to discuss the research, the nurse does not feel capable of evaluating the quality of the research, the nurse does not see the value of research and there is not a documented need to change practice. This result may due to nurses with a Master or PhD are not being adequately involved in practical areas but they rapidly search to become faculty staff in different Universities or travel for better financials. This will lead to increase gap between theory and practice, they do not benefit their hospitals from research results as well as absence for role models to other nurses. This was consistent with

Hassan ⁽²⁰⁾ & Fitzpatrick and Wallace ⁽²¹⁾ who discovered many of nurses in the developing countries after gotten a Master or Ph D prefer to travel abroad in other countries for better financials and work chances.

Findings of the present study revealed most nurses being themselves unable to evaluate the quality of the research and unable to see the value of the research. This result may be due to lack of nurses education, training and involvement in research activities, inability of continuing education in the hospital to perform its role in educating and training nurses about the research and research based nursing practice. When nurses understand nursing research this will enable them to better apply research. This was supported by Schoonover⁽²²⁾ & Hassan ⁽²⁰⁾, who found the same result`s and stated that, these result reflecting lack of knowledge and skills related to research utilization and evidence based practice.

In addition to presentation and accessibility of the research was ranked by the subjects in Damanhour University as a first greatest barrier. The fact that the implications for practice are not made clear, the literature was not compiled in one place and research report / articles are written in English, according to the respondents was perceived as an obstacles. This means that nurses due to lack of knowledge and education in research techniques find it difficult to evaluate scientific articles and nurses don't have the tradition to use the library services.

Additionally, absence of translated researches from English to Arabic as most nurses in this study stated that the English language in research is considered as a great barrier to research utilization. This in line with another studies as Ess ⁽²³⁾ & Yava ⁽²⁴⁾ who stated that nurses English language skills are relatively low and most of high quality nurses studies are published in English language. Also Bostrom ⁽²⁵⁾ confirm that two thirds of nurses in their

study reported that the English language was a barrier to research utilization.

Moreover setting barriers will be considered as greatest barriers in Mansoura University which difference between nurse related barriers and setting barriers was little. Also, setting barriers considered second greatest barriers in Damanhour University. These findings may be because the setting in the current study has limited financial and human resources. The limitation of the financial resources lead to a difficulty in applying the study findings which may need extra-equipment and material, and an absence of full-text nursing articles or a library containing up-to-date text books.

These findings consistent with many of previous studies^(20,22,26,-29). Among setting related barriers that come at top ranking in Mansoura and Damanhour Universities were the nurse does not have time to read research, the nurse does not feel she has enough authority to change patient care procedures and the nurse feels results are not generalizable to own setting. These barriers have often been reported in previous barriers studies^(25,30)

In addition of the shortage of the staff members, heavy activity and workload gave them neither time nor energy to read, to do and apply research findings and activities. This is in alignment with a number of other studies who confirm that nurses have no authority to administer their time at work and nurses perceived the limitation of nursing time to read and integrate research evidence into practice among the most important barriers to research utilization^(19,25,31)

Regarding the quality of research related barriers, respondents in Mansoura and Damanhour University ranked that research reports/articles are not published fast enough, the nurse is uncertain to believe the research, the research has methodological inadequacies and the conclusions drawn from the research are not justified as a greatest barriers. This may be due to lack of effective communication between researchers and nursing practitioners as a result for dissimilar beliefs and education, lack of education, knowledge, skills and interest in use of research. Ezz⁽²³⁾ in their study confirmed that nurses with bachelor degrees don't receive research related courses after their graduation except for those who register for post graduate studies. Lack of research related knowledge makes nurses unable to understand methodological and findings of research, even if those researches are written in a good quality.

Results of the present study referred that mean score of academic staff in Mansoura and Damanhour Universities indicated that nurse related barriers were a greatest barriers followed by setting related barriers. While mean score of head nurses in both universities indicated that research related barriers

were greatest barriers. This difference may have been related to role differentiation between academic staff and head nurses.

Academic staff assume diverse and varied roles, including teaching, research, staff development, process improvement and facilitation of change. Evaluating academic staff perspective of barriers and facilitators to research utilization may provide insight on ways to facilitate programs for staff development and organizational change, thereby helping to close the gap between research and practice. Unfortunately most of the nursing research was conducted by the academic staff at the nursing faculties, and the communication between those researchers and the nursing practitioners is lacking. This lack of effective communication may occur because there are dissimilar beliefs, and education⁽³²⁾ they don't see each other or speak the same language⁽²³⁾. So, the research may appear difficult to understand by nurses or the study results may not meet the real needs of the clinical practice.

Findings of the present study revealed that all head nurses in this study have bachelor degree only and don't have any post graduate study. This reflect research related barriers perceived by them may be related to head nurses have no adequate knowledge and skills about scientific research, how to access research and research critique. This result with the same line with the Strickland &Kelley⁽¹⁹⁾ who stated that the higher the academic degree the more the nurse category was rated as a barriers; administrators with associate degrees and diplomas rated research as a greater barrier.

Also findings of the present study revealed that the rank order of the facilitators for the utilization of research in Mansoura and Damanhour universities were consistent with previous findings regarding barriers to research utilization in both universities. The greatest facilitators to the utilization of research findings in Mansoura University were found related to the nurse and the setting barriers. This facilities were improving nurses attitudes, improve research knowledge, improve economic research and increasing time available for research activities. In addition to more employees/sufficient staffing will relieve load of work and give nurses enough time to visits the library, reading exploring ideas, going to courses, discussing with colleagues and developing protocols to fully implement changes in practice.

As well as Strickland &Kelley⁽¹⁹⁾ stated that improving research knowledge and awareness, the staff nurse becomes more confident in the value of research and may become more interested and motivated. Sufficient time and staff was also suggested as a major facilitator. Hommelstad &Ruland⁽²¹⁾ also found that increasing accessibility

of research literature and making more time and researches available for nurses to review and implement research findings as a greatest facilitators to research utilization. Also suggested that making research literature available in department and making research literature more readable, credible and relevant.

On the other hand the greatest facilitators to research utilization in Damanhour were found related to presentation and accessibility of the research and setting barriers. These facilitators were improving accessibility to research literature which scientific articles and data should be presented in a way that is easily understood by the nurses. In addition to cooperative and supportive colleagues, improving economic resources, research nurses and improving nurses' attitudes.

Conclusion and recommendation

Nurses in Mansoura and Damanhour Universities hospitals are challenged by several barriers hindering RU and also suggest many facilitators to overcome these barriers. Nurse related barriers was ranked in Mansoura university as a greatest barriers followed by setting barriers and then research related barriers. While, the respondents in Damanhour University ranked presentation and accessibility of the research as a greatest barriers followed by setting barriers, qualities of the research and then nurse related barriers. Moreover, the majority of the suggested facilitators to RU in Mansoura is related to nurse barriers and in Damanhour are related to presentation and accessibility of the research barriers.

When barriers to research utilization are identified, nurse administrators, clinicians and researchers can design and implement specific strategies to overcome these obstacles.

Based on the results of the present study, the following recommendations are suggested:

- Conducting trainings and workshops to raise nurses' awareness on RU, research process and methodology.
- Significant recent research articles should be translated into Arabic.
- Research articles and statistical analysis should be presented in a clear and understandable ways to staff nurses explaining research's applications in the hospitals.
- Closer ties between researchers and staff nurses through scientific workshops will foster communication and assist researchers to define their future studies based on real finding from clinical areas.

- Closer ties between academic and service institutions to focus more on teaching their students about research utilization rather than concentrating on teaching them how to conduct research.
- An educational background with research courses should be found to be indicative of research utilization.
- Settings should be given adequate support to RU through:
 - Providing libraries at workplace containing the most important and updated researches.
 - Improve work condition through decreasing work load, increase resources, availability of time to read researches and try to implement new ideas.

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