

# Facilitating Factors for Overcoming Barriers Facing Nurses for Research Utilization in Clinical Settings

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**Abstract** Research utilization refers to the use of some aspect of a study in an application unrelated to the original research. The aim of this study was to identify factors that facilitate nurses for overcoming barriers of utilization of research finding in clinical Practice. Design: descriptive correlation design was used. Setting: this study was conducted in; 1) the two Maternal and Child Health Centers in Sheben El-Kom and nine health Units affiliated to Sheben El-Kom districts-Menoufia governorate (2) Faculty of Nursing- Menoufia University. Sample: (1) a random sample 120 practical nurses from the two Maternal and Child Health Centers in Sheben El-Kom and nine health Units affiliated to Sheben El-Kom districts (2) a convenience sample of 100 Academic staff from Faculty of Nursing who finished their Master or Doctorate degree was selected. Tools: 1. a questionnaire to collect Socio-demographic data such as: age, educational, experiences and nursing' knowledge, Attitudes towards research utilization. 2. A barriers Scale for Practical Nurses to assess barriers to the use of research findings in practice that was developed by Funk et al., (1991). 3. A structured questionnaire. It was designed to include opinion towards what facilitating factors are important for nurses to adopt research utilization? The main results: total Nurses' Attitude toward research utilization was positive having mean of  $8.31 \pm 1.43$  with Maximum of 12.0 and Minimum of 6.0. Also the current study revealed that, 60 % of practical nurses does not use research findings in patient care/patient care procedures. The facilitating factors that overcoming barriers of research utilization was 80.0% & 64.2 % of academic staff and practical nurses respectively reported that; given adequate training in research utilization was extremely important. Conclusion: our practical nurses are facing many difficulties in implementing research utilization. Facilitating factors that overcome barriers was reported as; given adequate education in Research and its utilization & the support from nursing manager. Recommendations: Enhance research skills of practical nurses, enhance support from nursing manager and initiate a link between health institutions and academic researchers for adoption of research finding.

**Keywords:** Research utilization- facilitating factors for Nursing Practice-Clinical Setting

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## 1. Introduction

Health Research Ministerial in November 2004 and the World Health Assembly in May 2005 Summit and called for more research in developing countries to strengthen health systems and to help achieve the Millennium Development Goals by 2015 [1,2]. Research, has to be a component of a strategic process rather than an end in itself. Ill-health and premature deaths from preventable causes persist, especially among poor children and women, in spite of available cost-effective interventions [3].

Research utilization continuously express concern about whether nurses use the best available research evidence to guide their clinical practice [4]. This disparity between the availability of research evidence and its use in practice is often referred to as the 'research-practice gap'. As reported by [5] who have argued that there is no theory-practice gap; that the knowledge forms at issue in

theory-practice gap discourse are radically different in kind. This stands in contrast to the view of [6,7] who emphasized on the nature of the gap, its origins, and in some cases, solutions to it. Research-practice gap have been highlighted in the nursing literature, most of the evidence is anecdotal due to difficulties surrounding attempts to measure whether or not nursing practice is research-based. It remains generally accepted however that a research-practice gap exists [7].

The concern about the span of time between discovery and utilization became more intense, when it was discovered that many of the findings from research were not being used. Commentators have noted that progress in utilizing the results of nursing research studies in practice has preceded slowly-too slowly and a gap between research and practice have appeared. Time lags are the time between the discovery and utilization of knowledge [7]. It has been estimated by [8,9] that the uptake of new medical discoveries into clinical practice progresses at a rate of only 14% after 17 years.

Researchers and Experts in the area utilization across disciplines began addressing the problem; examine reasons for the lack of utilization and to propose strategies to improve it. Scientists are gaining insight into the process that occurs in the diffusion and utilization of new knowledge; innovation, diffusion, and utilization. The transfer of knowledge is the dissemination or diffusion of knowledge. It is the process of communicating research findings from researchers to potential users, including researchers and clinicians [10]. A strategy commonly recommended for bridging the gap between research and practice is to identify barriers to practice change [11,12], then implement strategies that account for identified barriers. Typically, barriers are context-dependent; therefore, implementation strategies should be tailored according to the context and the specific barriers identified [13].

Research utilization refers to ‘that process by which specific research-based knowledge "science" is implemented in practice. The main elements of research utilization include summarizing knowledge generated through research; communicating the research knowledge to nurses, other health care professionals, policy makers, and consumers of health care; and achieving desired outcomes for patients, nurses, and health care agencies [14]. Research utilization process provides a step-by-step method that facilitates systematic movement from identifying a nursing problem in need of a scientific basis through formulation and evaluation of a research-based innovation in the practice setting [15].

Conceptions of research utilization recognize a continuum in terms of the specificity or diffuseness of the use to which knowledge is put. At one end of the continuum are discrete, clearly identifiable attempts to base a specific action on the results of research findings. Instrumental utilization represents one end of the continuum, that is concrete and it refers to as adoption of an explicit nursing intervention or information that will help facilitate decision making. This other end of the continuum was referred as conceptual utilization. The middle ground of this continuum involves the partial impact of research findings on nursing activities. Research

utilization at all points along the continuum appears to be an appropriate goal for nurses [16].

Knowledge in clinical practice are far from straight forward and have been reported a s a difficult undertaking in may specialty; medicine, and nursing [17]. According to a systematic review of the extent of nurses 'RU in clinical practice, nurses reported their RU to an extent designated as moderate-high in the majority of the included studies [18]. The lack of standard measures for research utilization, make it difficult to compare findings across studies. In nursing, barriers to Research Utilization have been studied and found to originate from the organization [19].

Different models of research utilization (RU) have been employed as vehicles for implementing new knowledge and improve nursing practice. It is aim of models was better performance and improvements in patient outcomes. An unfortunate consequence is that the issues evidence and its utilization in practice have occurred in separate loops. Research Utilization has two main components; the interpretation and use of people’s research findings in practice. Research Utilization is an integral part of sound clinical, administrative, and educational nursing practice and is essential for quality management” using the methods of science”. The transfer of knowledge is the dissemination or diffusion of knowledge [20].

Havelock's theory of change is a linear model that generally had an emphasis on planning and an understanding of the possibility that people and systems may be resistant to change. Both the nursing researches and nursing practice necessitate the use of any one of models to transfer knowledge to practice [21]. The first one is the research, development and diffusion model, which is the most widely used model (Figure 1). The research questions arise from the researcher; the research base for innovation is comprehensive; and the results are diffused in the usual research channels, publications, and conference presentations. The major limitation of this model is that findings may never reach the majority of clinicians, or they may reach some, but for a variety of reasons are not put into practice. With widespread dissemination following transformation of the information, some clinicians may be able to use the results [21].

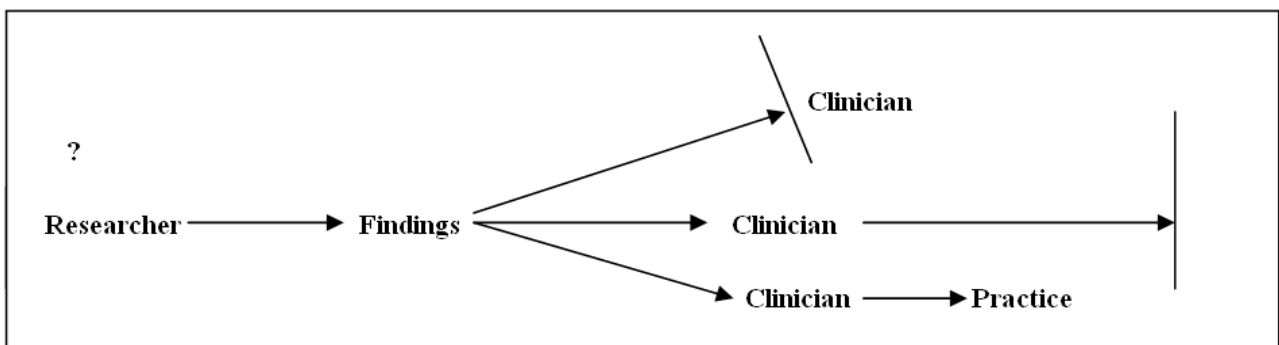


Figure 1. The Havelock & Havelock Theory; research, development, and diffusion model [21]

A familiar model for clinicians is the problem-solving model (Figure 2). The problem identified in a clinical setting. The process may include evaluation of the effectiveness of the innovation in solving the problem.

The model 3 discuss how the **user system (clinicians)** is linked with a **knowledge-generating system**

(**researchers**), which together identify relevant research questions and find solutions to clinicians’ problems. Communication systems are built in for clinical questions to become research questions (Figure 3) [21].

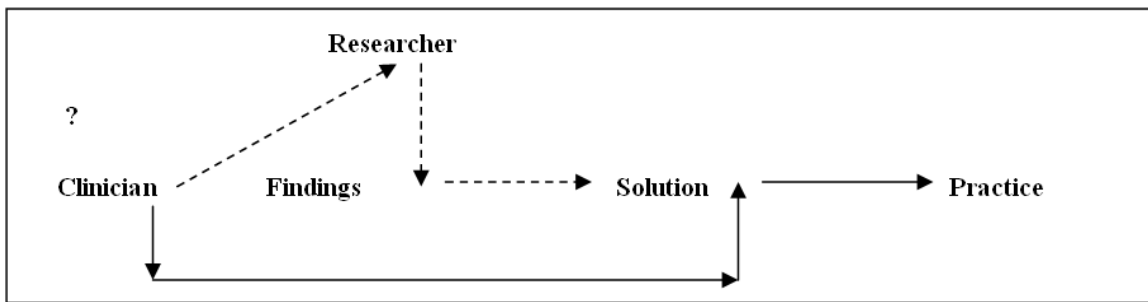


Figure 2. The problem-solving model [21]

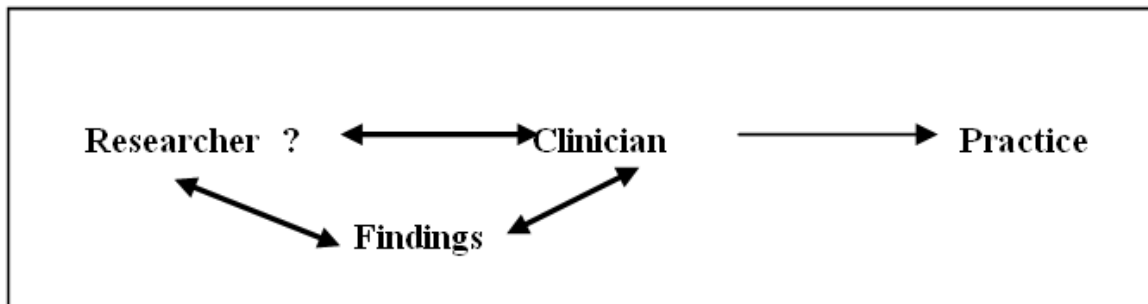


Figure 3. The linkage Model [21]

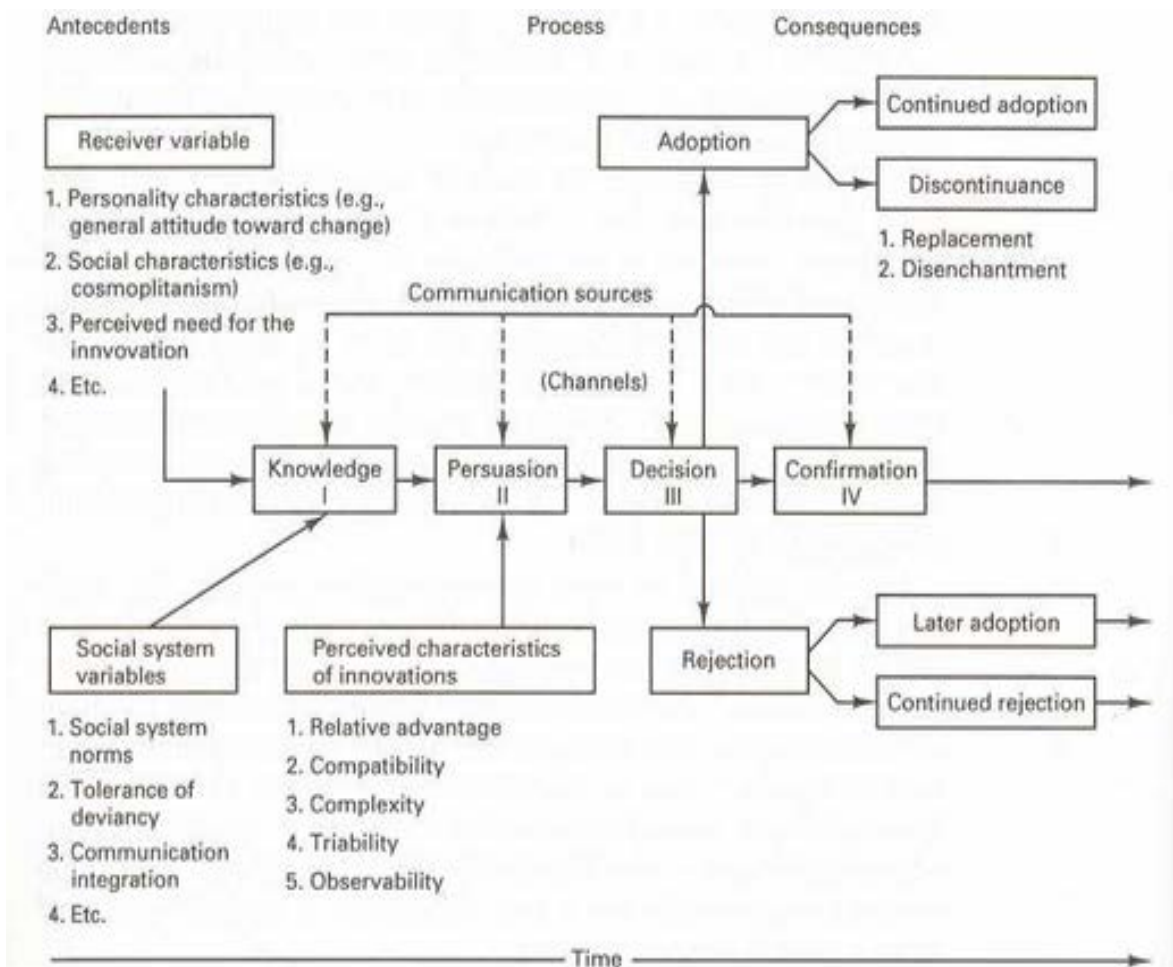


Figure 4. Conceptual Model: Diffusion of innovation model [22]

Studying the Rogers' Theory of Diffusion of innovations and how innovation occurs, Rogers [22] argued that it consists of four stages: invention, diffusion (or communication) through the social system, time and consequences. The information flows through

networks. The nature of networks and the roles opinion leaders play to determine the likelihood that the innovation will be adopted. Innovation diffusion research has attempted to explain the variables that influence how and why users adopt a new information medium, such as

the Internet. Opinion leaders exert influence on audience behavior via their personal contact, but additional intermediaries called change agents and gatekeepers are also included in the process of diffusion. Five adopter categories are: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards. These categories follow a standard deviation-curve, very little innovators adopt the innovation in the beginning (2,5%), early adopters making up for 13,5% a short time later, the early majority 34%, the late majority 34% and after some time finally the laggards make up for 16%.

Diffusion was defined by Rogers, as the "process by which an innovation is communicated through certain channels over a period of time among the members of a social system". An innovation is "an idea, practice, or object that is perceived to be new by an individual or other unit of adoption". "Communication is a process in which participants create and share information with one another to reach a mutual understanding" [22].

Nurses' research utilization (RU) is strongly emphasized in today's nursing education and clinical practice, the primary aim of research utilization is to provide high quality nursing care to patients. A number of factors associated with nurses' low extent of research utilization two years post-graduation were found, most of them potentially modifiable. These findings illustrate the multitude of factors related to low research utilization extent and take their interrelationships into account. This knowledge might serve as useful input in planning future studies aiming to improve nurses', specifically newly graduated nurses' to research utilization [23]. Nurses in healthcare organizations should use research findings to assess their skills, develop and implement policies and procedures, and perform effective clinical interventions to provide care plan to improve positive outcomes for patients [24,25].

## 2. The aim of the Study

The aim of this study was to identify factors that facilitate nurses for overcoming barriers of nurses' research utilization in clinical Settings.

### 2.1. Research Questions

- To what extent nurses enhance /understand research skills.
- To what extent practical nurses are use research finding in their practice?
- What are the barriers to research utilization perceived by practical nurse working at MCHC or health units?
- What are the factors that help nurses base their practice on research/?

### 2.2. Operational Definition:

**Nurses in this study:** is operationally defined as all categories of nurses who are working as faculty staff members in the faculty of nursing and practical nurses working in MCHC and Health units as a pediatric nurse and family practice nurse.

## 3. Subjects and Method

**Design:** Descriptive correlation design was used to fulfill the aim of the study.

**Setting:**

- (1) The two Maternal and child health centers in Sheben El-Kom City and nine health units affiliated to Sheben El-Kom districts –Menoufia governorate was selected to collect data from practical nurses.
- (2) Faculty of Nursing -Menoufia University to collect data from academic faculty staff.

**Sample:** the sample size was estimated to detect the differences between academics and practical nurses regarding research utilization with a 95% level of confidence (error=5 %) and a study power of 80% (error=20%). Using the Epi-info computer software program the required sample size was 220 subjects. The sample consisted of;

a). A convenience sample of 100 Academic faculty staff from Faculty of nursing Menoufia University were selected according to the following criteria; who finished Master or doctorate degrees and agree to participate in the study to be included in the sample.

b). A simple random sample of 120 practical nurses who are working in MCH Center and health units were interviewed to select the required sample.

**Instruments;**

1. **A structured questionnaire;** It was designed to includes:-
  - A). Socio-demographic date: age, educational level, and years of experiences.
  - b) Questions related to types of services that are provided in MCH Centers and health units and questions related to nursing measures provided for the mothers and their children during their visit to the MCHC or health units.
  - c) Questionnaire for nurses' knowledge and attitude. It was developed by the researchers based on the current related literatures. This tool measures knowledge attitude towards Research and its Utilization. It includes:-
    - Knowledge of research and its use in clinical. It includes 5 items.
    - Attitude towards research and its uses in clinical settings. It included 6 items related to nurses' attitude.

The nurses were asked to answer the extent they perceive each statement by either yes or no.

**2. A barriers Scale for Practical Nurse.** It was used to assess barriers to the use of research findings in practice from the practical nurses ' point of views. It includes items that were developed by [26] and translated into Arabic. The items were refined based on the pilot study that was done for practical nurses. The practical nurses were asked to rate the extent to which they perceive each statement as a barrier as "Almost or Never".

The scale covers barriers related to : nurses' characteristics; 3 items; the nurse does not feel capable of evaluating the quality of the research, nurse feels the benefits of changing practice will be minimal. The nurse sees little benefit for self. Organization characteristics that includes 6 items; administration will not allow any change & insufficient time to implement new ideas. Communication characteristics between researchers and



practitioners; includes 3 items and can facilitate the goal of using research findings in practice.

**3. A structured questionnaire for practical nurses and Academic faculty staff** to assess what are the facilitating factors that overcome the barriers to implement research findings in practice. It was developed by the researcher after reviewing of literature. It was designed to include; opinion about what factors are important for overcoming the use of research utilization? It included 7 items. They were asked to rate the extent to which they perceive each statement by either least important or extremely important.

**Procedure for data collection:**

- **Study period:** This study was conducted during the period starting from June 2014 to the end of December 2014.
- **Approval:** an official permission to carry out the study was obtained from the responsible authorities; faculty of Nursing, Menoufia University, by the researcher to the administrators of the two Maternal and Child Health Centers and the nine health units, where the data were collected to conduct the study after an explanation of the purpose of the study.
- **Ethical consideration:** protection of nurse's rights, oral consent was obtained from nurses to participate in the study, the researchers initially introduced themselves to all subjects. They were informed about aim of the study and what was expected of her. Each nurse was notified about the right to refuse to participate in the study, before taking her verbal consent. Anonymity and confidentiality of the information gathered was ensured.
- **Instruments development: Validity:** Instruments were reviewed and tested for validity by 5 experts in pediatric nursing and community health nursing, modification were done accordingly to ascertain relevance and completeness. **Reliability:** The internal consistency of the questionnaires was calculated using Cronbach's alpha coefficients. Test-retest was used. The Cronbach's alpha of the questionnaire was 0.92 indicate good reliability.
- **Pilot study,** a pilot study was conducted on 10% of the study sample to evaluate the developed tools before starting the actual data collection. The pilot sample was not included in the total sample of the research work to ensure stability of the answers. Based on the results of the pilot study, modifications, and rearrangement of some questions were done. It also helped to estimate the time needed to fill in the questionnaire.
- The time taken for every questionnaire to be completed was about 20-30 minutes for each nurse and faculty of nursing staff.
- Practical nurses and academic faculty staff who agreed to participates in the study are requested to complete the required tools. The researchers introduced themselves to the respondents, and explained the aim and objectives of the study to the nurses in the study settings. Anonymity and confidentiality of the information gathered was ensured.

- Then, the designed questionnaire was distributed to them, with instructions about its filling. This was repeated in each place of the study setting. The researchers were present all the time to clarify any ambiguity.

### 3.1. Statistical Analysis

The data collected were coded, data entry, tabulated and statistically analyzed by personal computer and statistical package SPSS version 16. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. Variables like nurses' knowledge, attitude were compared using chi-square test. Pearson correlation analysis was used for assessment of the inter-relationships among quantitative variables. Statistical significance was considered at p-value <0.05. P value, Highly significant difference if P < 0.001.

## 4. Results

**Table 1** clarified that 49.1% of the studied sample their age were ranged from 30 to less than 40 years old, 41.8% their age were ranged from 40 years and above, and the least 9 % less than thirty years old. More than half of studied nurses (54.5 %) had Nursing Secondary School "practical nurses" while, 45.5 % of studied nurses had at least master or doctorate degree in nursing.

**Table 1. Socio-demographic Characteristics of the Studied Subjects**

Socio-demographic characteristics	No.	%
<b>Age in years:</b>		
30>	20	9.0
30-	108	49.1
40- and over	92	41.8
<b>Educational level:</b>		
Secondary School of Nursing " practical nurses "	120	54.5
Master and Doctorate Degree "faculty Staff"	100	45.5
<b>Years of Experiences</b>		
Less Than One Year	14	6.4
1-	30	13.6
3-	44	20.0
4 Years and More	132	60.0

**Table 2** indicated that all academic staff (100 %) new steps of scientific research compared to 32.5 % of practical nurses. The largest percent of academic staff attend nursing conferences, (77.5 %) compared to 57.1% of practical nurses. On the other hand, half practical nurses (50.8%) reported that the research is not reported to them compared to 33.8 % of academic staff.

**Table 3** shows that 60.0% of practical nurses do not use research findings in patient care/patient care procedures. It revealed that 47.5% of practical nurses, compared to none (zero %) of academic staff are unaware of research respectively. Around 68.3 & 92.5 % of practical nurses compared to academic staff see the value of research. Whereas, a 35.0% of practical nurses compared to 7.5% of academic staff are unwilling to change or try to change.

**Table 4** shows that most common barriers for adoption of research utilization among nurses was the organization Characteristics; administration will not allow implementation, insufficient time to do research,

insufficient time at work place to read research articles and also to implement change in their current practice.

**Table 2. Distribution of the Nurses' Knowledge regarding Research**

Nurses' Knowledge regarding research & its uses in clinical fields	Academic staff (100)		Practical nurses (120)		Chi-square	
	No.	%	No.	%	X <sup>2</sup>	P
• Having knowledge regarding the steps of scientific research						
No	0	0.0	81	67.5	83.5	0.000*
Yes	100	100.0	39	32.5		
• attendance any nursing conference						
No	28	28.0	58	48.3	13.6	0.000*
Yes	77	77.0	62	51.7		
• the researches is not reported to them						
No	34	34.0	59	49.2	5.69	0.017
Yes	66	66.0	61	50.8		
• the nurse is uncertain whether to believe the results of the research						
No	82	82.0	59	49.2	22.7	0.000*
Yes	18	18.0	61	50.8		
• Researcher presented a copy or report of their findings to the clinic						
No	77	77.0	73	60.8	6.08	0.014
Yes	23	23.0	47	39.2		

\* Significant.

**Table 3. Nurses' attitude towards Research and its uses in clinical**

Nurses' attitude towards research	Academic staff (100)		Practical nurses (120)		Chi-square	
	No.	%	No.	%	X <sup>2</sup>	P
The nurse is unaware of the research?						
No	80	100.	63	52.5	49.87	0.000*
Yes	0	0.0	57	47.5		
Nurse is unwilling to read research or R. report						
No	98	98.0	71	59.2	40.11	0.000*
Yes	2	2.0	49	40.8		
No documented need to change practice						
No	79	79.0	48	40.0	29.18	0.000*
Yes	21	21.0	72	60.0		
Nurse is unwilling to change/ try to change						
No	79	79.0	78	65.0	19.90	0.000*
Yes	21	21.0	42	35.0		
The nurse does not use research findings in patient care / patient care procedures						
No	14	14.0	48	40.0	16.7	0.000*
Yes	86	86.0	72	60.0		
Are you utilize other researchers findings						
No	30	30.0	75	62.5	20.3	0.000*
Yes	70	70.0	45	37.5		

Significant.

**Table 4. Percent of Practical Nurses Barriers to Research Utilization**

Types of Barriers to research Utilization	Practical nurses	
	Almost %	Never %
<b><u>Nurses Characteristics:</u></b>		
The nurse feels she is not capable of evaluating the research quality	98.0	2.0
The nurse sees little benefit for self	10.0	90.0
Nurse feels the benefits of changing practice will be minimal.	18.0	88.0
<b><u>Organization Characteristics:</u></b>		
Administration will not allow implementation.	77.5	22.5
Insufficient time to do research	100.0	0.0
Insufficient time to implement new ideas	74.0	26.0
The nurse has no time to read research.	86.0	14.0
Nurse feels results are not generalized to own setting	100.0	0.0
Nurse does not feel she has authority to change patient care procedures	93.0	7.0
<b><u>Communication Characteristics:-</u></b>		
The researches is not reported to them	100.0	0.0
The research is not relevant to nurse's practice.	0.0	0.0
Nurses are not interested in the topics of research.	63.0	37.0

Table 5 showed most common important factors for adopting research utilization was extremely important; given adequate training in research , nursing management

who will not allow implementation or hinder research utilization, given adequate training in research utilization was extremely important.

**Table 5. Nurses' Opinion on the important Facilitating factors for overcoming the barriers of using Research findings in their practice**

Nurses' Opinion on the facilitating factors for overcoming the barriers of using Research findings in their practice	Academic staff (100)		Practical nurses (120)		Chi-square	
	No.	%	No.	No.	X <sup>2</sup>	P-
<u>Nursing colleagues who hinder Research utilization</u>					3.92	
Least important	35	35.0	59	49.2		0.05*
Extremely important	65	65.0	61	50.8		
<u>Nursing management who embrace Research utilization</u>					0.07	
Least important	28	28.0	35	29.2		0.80
Extremely important	72	72.0	85	70.8		
<u>Given protected time to conduct Research utilization</u>					15.2	
Least important	10	10.0	41	34.2		0.000*
Extremely important	90	90.0	79	65.8		
<u>Access to a system for comprehensive literature searching</u>					8.17	
Least important	20	20.0	47	39.2		0.004
Extremely important	80	80.0	73	60.8		
<u>Given adequate training in Research utilization</u>					5.79	
Least important	5	5.0	43	35.8		0.016
Extremely important	95	95.0	77	64.2		

\* Significant.

**Table 6. Distribution of Total nurses' knowledge, Attitude & Opinion facilitating factors for research finding use in clinical**

Total nurses' Knowledge, Attitude & Opinion on the factors important for you to adopt Research Utilization	Mean & SD Deviation	Minimum	Maximum
Total knowledge	13.33±1.61	9.0	18.0
Total Attitude	8.31±1.43	6.0	12.0
Total opinion factors are important for you to adopt Research Utilization	10.09±2.05	6.0	12.0

Table 6 shows that; total nurses' Attitude toward research was positive having mean of 8.31±1.43 with Maximum of 12.0 and Minimum of 6.0. The total barriers mean score for adoption of research utilization in practice among nurses was that 15.16±3.01 having a maximum of 18 and minimum of 9. That mean our nurses are facing many difficulties in implementing research utilization.

Figure 5 Percent distribution of Maternal and Child Health Services provided in MCH Centers and Health units.

Figure 6 Percent distribution of Children Feeding Advice Provided in MCH Centers and Health units.

Figure 7 Percent distribution of services types provided in MCH Centers and Health units.

Table 7 Correlation Matrix: a positive correlation was found between the Total Nurses' Knowledge and Total opinion about factors that is important for you to adopt Research Utilization.

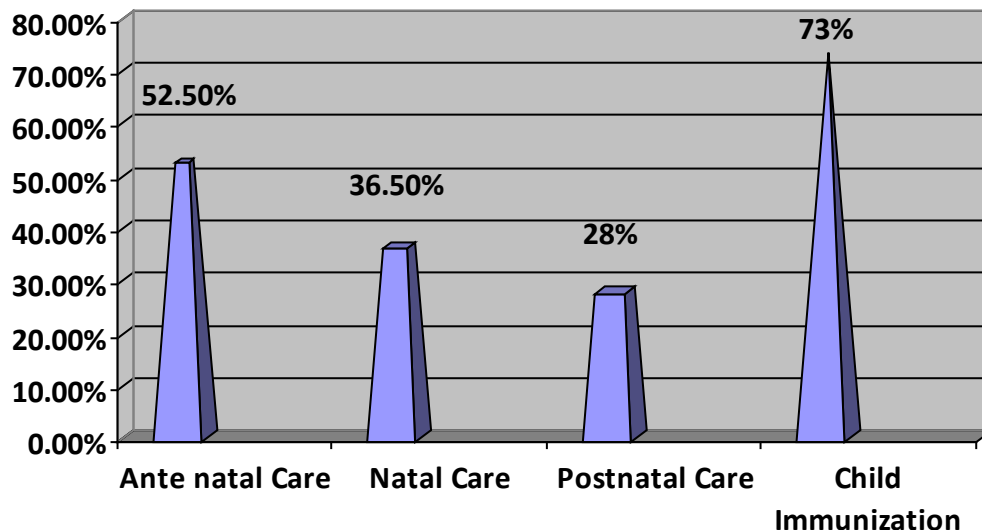


Figure 5. Maternal and Child Health Services provided in MCH Centers and Health Units

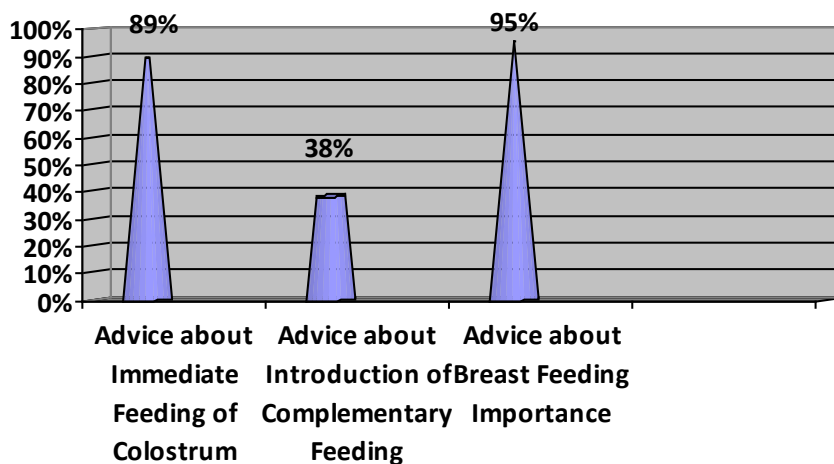


Figure 6. Percent Distribution of Children Feeding Advice Provided in MCH Centers and Health Units

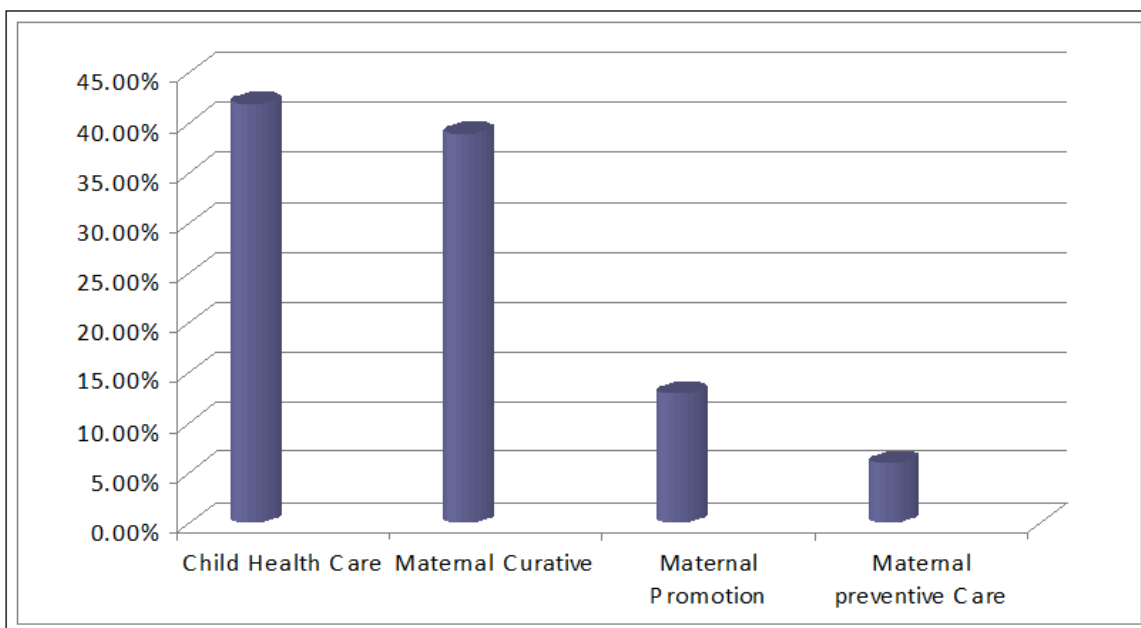


Figure 7. Percent Distribution of Services Types Provided in MCH Centers and Health Units

Table 7. Correlation Matrix for Total Nurses' Knowledge and Total opinion about factors that is important for you to adopt Research Utilization

Correlation coefficient (2-tailed)	Total knowledge	Total Opinion on the important factors for overcoming the barriers of using Research findings in their practice
Total knowledge	1.000	0.186**
Total Opinion on the important factors for overcoming the barriers of using Research findings in their practice	1.86**	1.000

\*\*Correlation is significant at the 0.01 level (2-tailed).

## 5. Discussion

In any community mothers and children constitute an important and priority group especially in developing countries whereas, their numbers constituting up to two third of total population, vulnerability to morbidity and mortality and amenability to prevention of ill health and mortality, to a large extent, makes them candidate for special attention. The functions of Maternal and Child health Center "MCHC" confined to essential obstetric care, new born care, child health promotion, family planning, health education [27]. The aim of this study was to identify the factors that facilitate nurses working in "MCHC" and health units for utilization of research

finding in their clinical practice. A major challenge is to gain a better understanding of factors that facilitate and hinder the use of research based knowledge in practice.

### 5.1. Nurses' Knowledge about Research Skills

The current study revealed that all academics staff new steps of scientific research compared to more than one third of practical nurses. Also, largest percent of academic staff attend nursing conferences, compared to half of Practical nurses (Table 2). This result was in line with [16] who stated that because of the educational preparation of Practical nurses, most of them graduates of diploma or associate degree programs have not received any formal instruction in research and may lack the skills to judge the merits of a study. Also in the current study clarified that



almost all academic staff sees the value of research, compared to less than two third of practical nurses who value of nursing research. These results were also supported by the results of [28] who stated that nurse's value nursing research and want to be involved in research-related activities; hence, the time may be ripe for innovation. Whereas, half of Practical nurses in the current study say yes regarding the research is not reported to them. This may be attributed to the lack of communication between researchers and practical nurses and the main reason of low level of research utilization.

## 5.2. Nurses Attitude towards Research Utilization

In the current study nurses' had a positive attitude toward research the mean of  $8.31 \pm 1.43$  with Maximum of 12.0 and Minimum of 6.0. It also clarified that all academic staff and half of practical nurses that working in Maternal and child health centers and health units say no regarding they unaware of research, also regarding unwilling to read research (Table 3 & Table 6). The practical nurses in the current study revealed that they are mostly unwilling to change / or try to change. This was in line with [28] who stated that this was most common in humans: people often are resistant to change. Change requires effort, retraining, and restructuring one's work habits. Thus, there is likely to be some opposition to introducing innovations in the practice setting. Also [29] stated that the process of research use consistently contained four stages of practical reasoning comprising research identification, confirmation, evaluation and application. Each stage involved practitioners in cognitive work to translate the research evidence into practice policy. Also [30] who studied nurses in pediatric Care self reported professional self and perceived research utilization. They reported that 'there is insufficient time on the job to implement new ideas' and 'the nurses do not have time to read research'. The lowest barriers were found in; 'the nurse is unwilling to change/try new ideas' and 'the nurse is unaware of research'.

The current study revealed that most of practical nurse' are unwilling to read research reports. While the research findings are communicated primarily to other researchers from academic staff only "utilize other researcher's findings (Table 3). This result was supported by [31] who reported Lack of knowledge related to difficulty in finding and understanding research reports and data, as well as how to change nursing practice. Respondents stated:-do not know what to read, there is too much;-do not feel capable of evaluating research; and -no recent education on research. This may be due to the courses on research methodology are now typically offered in baccalaureate nursing programs but, generally, insufficient attention is paid to research utilization. Also because of an increasing number of faculty who are doctorate prepared and are involved in research. Also research and publication have increasing support in academic settings, which has facilitated faculty research activities. These activities will encourage future nurse to value research and apply it.

Because research has played a limited role in the training of most practical nurses, they may not have developed positive attitudes toward research and may not be aware of the beneficial role it can play in the delivery

of nursing care [29]. This finding was supported the findings of the current study which reported that most of nurses had a positive attitude towards research utilization; the total mean score of nurses' attitude towards RU was  $7.38 \pm 1.73$  having a maximum of 10 and minimum of 5.0 (Table 6). This result was congruent with [28] who studied "Nurses' wishes, knowledge, attitudes and perceived barriers on implementing research findings into practice among graduate nurses in Austria". They found that more than half of the participants considered nursing research and research utilization as an advantageous aspect in nursing care, valuable to nurses and neither irrelevant to the real day-to-day work nor only relevant to nursing education with a significantly higher percentage of nurses of the diploma group. That discrepancy between results may be due to that; nursing educators are now including relevant research findings in lectures and other educational activities, with appropriate documentation of sources. These activities will encourage future nurses to value research and apply it in practice.

## 5.3. The Use of Research in Clinical Practice

The current study revealed that the majority of practical nurses did not use research findings in client care /or patient care procedures (Table 3) This result was consistent with the results of [32] who select a sample of midwives and women to investigate the views of new mothers after vaginal births and midwives. The study has shown a fundamental problem in Chinese midwifery education, in that midwives do not have access to evidence-based material. Learning may facilitate midwives' to update their knowledge, understanding and competence towards their full role as midwives. Also similar to the results of [33] who study "Western Australian (WA) women's perceptions of midwifery care in the early postpartum period". They stated that although the majority of women were satisfied with the components of physical care and information and assistance with infant feeding and sleep, there was less satisfaction with emotional care and preparation for life at home with a new baby. Midwifery care at home was rated very positively and significantly better than clinic care ( $p < 0.002$ ).

The main aim of MCH Services remains to ensure that, throughout pregnancy and puerperium, every mother maintains optimal health and at the end of pregnancy we have a healthy mother and a healthy baby and promote the child health throughout the infancy and childhood. Delivery of MCH services to the vast majority of rural communities should be maintained [34]. This was revealed on the Figure 5, Figure 6 & Figure 7 which clarified that the utilization of MCH was not on the almost level, they lack in many preventive and promotion of maternal health and even curative aspects was not properly done. That means the utilization of research evidence was not applied. This result was similar to [35]. Also was in-line with [36] who conducted a study on " assess the utilization of maternal and child health care services at Sub-center level by the target population in Northern India". They concluded that the Utilization of ante-natal services is very low, intra-natal is almost non-existent, post natal maternal services are decimal but child health services and some components of family planning services are being utilized from sub-centers.

At the same time, [37] who studied "Improving maternal and infant health services in Australia". Aimed at engaging stakeholders, and developing research capacity and embedding change. Studies examined: indicator sets that identify best care, the impact of quality of care and remoteness on health outcomes. They concluded that: Evidence-informed redesign of maternity services and delivery of care has improved clinical effectiveness and quality for women. Whereas, [38] stated that scientific evidence indicates that about 30–40% of patients do not receive medical care conforming to existent scientific evidence and that about 20–30% of the provided medical care is not needed or is even potentially harmful. According to [39], it can be assumed that we have a similar situation in nursing care. This exposes individuals to the possibility of, for example, needless pain or other inconveniences.

#### 5.4. Barriers to Research Utilization

The current study showed that most common barriers for adoption of research utilization among practical nurses was the organization Characteristics; administration will not allow implementation, insufficient time to do research, and insufficient time at work place to read research articles and also to implement change in their current practice. Whereas the communication characteristics comes second then the nurses characteristics; the nurse feels she is not capable of evaluating the research quality (Table 4). The total barriers mean score for adoption of research utilization in practice among practical nurses was that  $15.16 \pm 3.01$  having a maximum of 18 and minimum of 9. That mean our nurses are facing many difficulties in implementing research utilization. These results are consistent with [40] who reported that the top three barriers were lack of time, inability to understand statistical terms, and inadequate understanding of the jargon used in research articles. The next three barriers identified were their inability to understand statistical terms, and difficulty in judging the quality of research articles and reports. Also similar to results of [41] who studied "Barriers to and Facilitators: in-line with of research utilization among Iranian Nurses Literature Review". They concluded that Iranian nurse's encounter with the same difficulties as to other countries regarding Research utilization; while setting related barriers were the predominant obstacles among them. Therefore, health managers are expected to plan appropriate strategies to smooth the progress of research utilization by nurses in their practice. Whereas, [42] concluded that the moderate level of attitude among nurses can provide a good potential in promoting evidence-based nursing in teaching hospitals. Therefore, more attention should be paid to enhance the awareness and skills of nurses toward evidence-based care. The differences in barriers may be attributed to the differences in the settings and individual characteristics of nurses or might be educational background of studied participants.

A related issue concerns communication between practical nurses and faculty staff researchers, some researchers view the utilization problem as due to the inability of practical nurse' to read and comprehend research reports. Most practical nurses do not read nursing research journals, and they may be too overwhelmed by

technical or statistical analysis to understand fully such reports when they do read those [16]. This was consistent with the current study finding which revealed that the majority of practical nurses reported that they are unwilling to read research reports and the research is not reported to them. While the research findings are communicated primarily to other researchers from academic staff only. This is because of the courses on research methodology are now typically offered in bachelor degree in nursing science but generally, insufficient attention is paid to research utilization. Also because of an increasing number of faculty who are doctorate prepared and are involved in research. Also research and publication have increasing support in academic settings. Many nurse educators are now including relevant research findings in lectures and other educational activities, with appropriate documentation of sources. These activities will encourage future practitioner to value research and apply it in practice.

#### 5.5. Facilitating Factors that overcome the Problem of Research Utilization

The current study showed most common important factors for adopting research utilization was extremely important; about nursing management who will not allow implementation or hinder research utilization, given adequate training in research and research utilization, given adequate time to implement research utilization (Table 5). This result was Similar to [31] who' study "Nursing Practice, Knowledge, Attitudes and Perceived Barriers to Research-to- Practice at an Academic Medical Center". They concluded that organizational barriers (lack of time and lack of nursing autonomy) were the top perceived barriers. Facilitators were learning opportunities, culture building, availability and simplicity of resources.

Also results were consistent with [43] they indicated that more training and education are required, Successful implementation of evidence depends on organizational plans and empowerment programs in hospitals. Hence, hospital managers should formulate a comprehensive strategy for improving RU. Also a similar results was emphasized by [40] who stated that the supporting factors in adopting evidence as nurses indicated that; the provision of adequate training in this area (mean score 5 3.90), closely followed by the availability of protected time to learn and implement Evidence, (mean score 5 3.88). Another factor that they thought could help in adoption was mentoring by nurses who had adequate experience with implementing evidence (mean score 5 3.86). In addition, nurses also expected support from their nursing management and access to a system for comprehensive literature searching (mean scores 5 3.79) is importance factors that were likely to help them in implementing research.

On the other hand [44] stated that both individual and organizational factors are the predominant factors that hinder implementation of research findings. So, hospital managements and nursing leaders can easily overcome some of these barriers through arranging evidence training. Also [23] their results illustrate the multifarious influences that play a role in RU, such as that both-individual (including individual perceptions and management of education) and organizational factors are associated with

RU. The findings suggest that several of the identified factors are potentially modifiable. In addition, the study provides knowledge that is important as a basis for designing future interventions to improve research utilization in clinical practice. Those differences in the factors facilitating use of research finding in practice give us a wide alternatives/global strategies to solve the problem of research utilization.

## 6. Conclusions

Facilitating factors that overcome barriers of nurses' Research Utilization as reported by nurses was:-

- Provide adequate training in research and research utilization.
- Increase the support from nursing manager.
- Provision of adequate time given to implement research utilization.

**Recommendations:** the academic faculty must work to:-

- Improve research skills of practical nurses.
- Increase time availability for reviewing and implementing research findings to reduce barriers of its use.
- Enhance support to nursing manager to formulate a comprehensive strategy for improving research utilization.
- Initiate a link between health institutions and academic researchers for adoption of research finding.

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