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EXPLORING NURSE MANAGERS' KNOWLEDGE, PRACTICES, ATTITUDE AND BARRIERS TOWARD EVIDENCE BASED PRACTICE

NAJLA AKMAL SINDI
Researcher, Nursing Administration, Faculty of Nursing, Cairo University, Egypt.
Email: sindinajla@gmail.com

EGLAL AHMED ABDELWAHAB
Emeritus A. Professor, Nursing Administration, Faculty of Nursing, Cairo University, Egypt.

NADIA TAHA MOHAMMED
Professor, Nursing Administration, Faculty of Nursing, Cairo University, Egypt.

Abstract

Background: Evidence-based practice (EBP) is essential for improving healthcare quality by integrating the best available research evidence, clinical expertise, and patients' preferences into clinical decision-making. Nurse Managers play a key role in promoting EBP through leadership, research utilization, and quality improvement initiatives. However, inadequate EBP knowledge, limited implementation skills, and organizational barriers continue to hinder its integration into nursing management**. Aim:** to explore nurse managers' knowledge, practices, attitudes, and barriers toward evidence-based practice **Methods:** descriptive exploratory design used in current study; at one of MOH Hospital, Jeddah. This study was conducted among (50) nurse managers. A purposive sample is used to recruit all nurse managers. Data were collected by using a structured questionnaire assessing EBP knowledge, practices, attitudes, and perceived barriers. Two tools were utilized, namely: (1) Personal Data Sheet and (2) Evidence-Based Practice Questionnaire (EBPQ), which included four parts: knowledge test, practice scale, attitude scale, and perceived barriers to evidence-based practice implementation. **Results:** Most nurse managers were female (84.0%), held a master's degree (62.0%), and had more than eight years of experience (88.0%). Overall, 66.0% demonstrated correct evidence-based practice knowledge, 42.0% had low practice, and 68.0% had negative attitudes. Heavy workload (86.0%) and limited time to read research (84.0%) were the main perceived barriers. Knowledge was significantly associated with most personal characteristics, whereas practice was associated only with educational level and previous research participation ($p < 0.05$). **Conclusion:** Nurse Managers demonstrated moderate knowledge but low practice and negative attitudes toward evidence-based practice. Organizational and individual barriers remain major challenges, highlighting the need for continuous education and organizational support to enhance evidence-based practice implementation. **Recommendations:** training program should be conducted for nurse managers to enhance their knowledge, practices, attitude related to Evidence Based Practice.

Keywords: Evidence-Based Practice, Nurse Managers, Knowledge, Practice, Attitudes and Barriers.

1. INTRODUCTION

Evidence utilization improves nurses' clinical performance, enhances job satisfaction, and promotes better team cohesion. At the organizational level, the application of evidence-based practice (EBP) also contributes to cost savings and improved healthcare outcomes [1]. Evidence-based practice involves integrating the best available research evidence into clinical care to achieve optimal patient outcomes [2]. In clinical settings, EBP does not involve conducting research; rather, it focuses on applying research findings to support high-quality healthcare delivery. Increasing attention has been directed toward

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EBP because of its positive impact on patients, nurses, and healthcare organizations [3]. The integration of current evidence into nursing practice improves the quality of patient care, resulting in better clinical outcomes and higher patient satisfaction [4]

Evidence-based practice is a decision-making approach that involves the conscientious, explicit, and judicious use of the best available evidence, together with clinical expertise and patients' preferences and values, to improve healthcare outcomes [5]. Furthermore, the use of evidence enhances nurses' confidence, adaptability, critical thinking, and decision-making skills, enabling them to respond effectively to diverse patient needs and complex healthcare situations [6.[

It is estimated that more than 40% of patients do not receive care consistent with the best available evidence, while over 20% are exposed to potentially harmful care. Despite the recognized benefits of EBP, its implementation remains slow because of multiple organizational and contextual barriers that are often beyond the control of individual nurses [7].

Research has shown that many healthcare managers do not regularly consult scientific evidence when making managerial decisions, resulting in a persistent gap between research and practice. This gap highlights the need to strengthen evidence-based management to improve organizational decision-making and healthcare outcomes [8]. Although research examining the role of nurse managers in EBP implementation remains limited, nurse managers are expected to possess adequate knowledge of research methods and evidence-based guidelines, critically appraise research findings, and translate evidence into practice to improve patient care and organizational performance [9].

2. METHODS

2.1 Aim

The current study aimed to explore nurse managers’ knowledge, practices, attitudes, and perceived barriers toward evidence-based practice

Research question:

What are nurse managers’ knowledge, practices, attitudes, and perceived barriers toward evidence-based practice?

2.2 Design

Descriptive exploratory design was utilized in the study .

2.3 Setting

The study was conducted at King Fahad General Hospital, Jeddah, Kingdom of Saudi Arabia. The hospital is a tertiary governmental healthcare institution with a capacity of 628 beds that provides comprehensive medical and surgical services. Data were collected from nurse managers working in different hospital departments, including medical, surgical, critical care, ambulatory care, and quality management units.

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2.4 Participants

A purposive sample is used to recruit all nurse managers holding managerial roles. The number of nurse managers are supervisors (6), unit mangers (21), charge nurses (15) and bed side quality mangers (8). The total sample of nurse managers = 50 .

2.5 Data Collection Tools

Data of the current study was collected using these two tools:

First tool: Personal data sheet developed by the investigator to collect demographic and work-related data, including gender, age, marital status, educational qualification, years of nursing experience, workplace, and previous participation in medical or nursing research.

Second tool: Evidence-Based Practice Questionnaire (EBPQ)The Evidence-Based Practice Questionnaire was adopted, with permission, from Abdulwahab and Mobarak (2020) to assess nurse managers' knowledge, practices, attitudes, and perceived barriers related to evidence-based practice. The questionnaire consisted of four parts.

Part 1: Knowledge test consisted of 25 questions (19 multiple-choice questions and six true/false questions). Each correct response was scored one point and incorrect responses were scored zero. Knowledge scores were categorized as excellent (85–100%), very good (70% to <85%), good (55% to <70%), fair (50% to <55%), and poor (<50%(

Part 2: practice test included nine items measuring the frequency of evidence-based practice activities using a five-point Likert scale ranging from 1 (never) to 5 (frequently). Higher scores indicated greater implementation of evidence-based practice. Practice levels were classified as low (<35%), moderate (35–50%), and high (>50%.(

Part 3: Attitude scale consisted of 11 statements rated on a three-point Likert scale (1 = disagree, 2 = neutral, and 3 = agree). Higher scores reflected more positive attitudes toward evidence-based practice. Attitude scores were categorized as positive (≥80%) and negative (<80%.(

Part 4: Barriers to evidence-based practice implementation consisted of 16 items divided into two domains organization and individual barriers to implementing evidence-based practice. Items were rated on a three-point Likert scale, with higher scores indicating greater perceived barriers.

Reliability of the adopted tool was (Cronbach alpha=0.872(

2.6 Procedure

Prior to data collection, an official permission was obtained from the Vice Dean of Higher studies and Researches at the Faculty of Nursing –Cairo University and forwarded to the Ministry of Health and forwarded to the selected hospital. A cover letter was accompany the questionnaire, providing an explanation of the study process. All participants were required to sign an informed consent form prior to data collection. The investigator

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emphasized that participation in the study was entirely voluntary and that participants had the right to withdraw at any time without providing a reason. Confidentiality was ensured by using coded data to protect participants' identities. All collected data were securely stored on the researcher's personal computer to maintain privacy and data security .

2.7 Statistical data analysis

The collected data was tabulated, computed and analysed statistically using Statistical Package for the Social Sciences (SPSS) program version 24. Descriptive statistics in the form of frequency distribution, percentages, mean and standards deviations were utilized.

3. RESULTS

Table (1) shows the distribution of nurse managers according to their personal characteristics. The majority of the nurse managers were female (84.0%). More than half (56.0%) were aged between 35 and less than 40 years, whereas only 8.0% were aged 40 years or older. Regarding marital status, half of the participants (50.0%) were single, while 36.0% were married and 14.0% were divorced.

In terms of educational qualifications, nearly two-thirds (62.0%) of the nurse managers held a master's degree in nursing, whereas 38.0% had a bachelor's degree. The majority (88.0%) had more than eight years of professional experience, while only 12.0% had 5 to less than 8 years of experience.

Regarding workplace, the highest proportion of nurse managers worked in medical units (24.0%), followed by critical care and surgical units (20.0% each). The lowest percentages worked in ambulatory and quality departments (18.0% each). Furthermore, slightly more than half of the participants (52.0%) had previously participated in medical or nursing research, while 48.0% had no previous research participation.

Table (2) shows the distribution of nurse managers' knowledge regarding evidence-based practice and related concepts. The highest percentages of correct responses were reported for foreground questions are not limited to disease-oriented information (94.0%), followed by the evidence-based practice movement was founded by Dr. Archie Cochrane (64.0%), external evidence is generated through rigorous research (50.0%), and synthesized research evidence provides the strongest basis for clinical decision-making (46.0%). Lower percentages of correct responses were reported for narrative reviews provide weaker evidence than systematic reviews (36.0%), stronger evidence increases confidence in the effectiveness of an intervention (16.0%), EBP integrates the best research evidence with clinical expertise and patient preferences (14.0%), evidence-based practice and research utilization are related but not synonymous (12.0%), and internal evidence is generated through clinical practice and professional experience (8.0%), which recorded the lowest percentage of correct responses

Table (3) shows the distribution of nurse managers' knowledge regarding the evidence-based practice process and formulating clinical problems. The highest percentage of correct responses was reported for correctly identifying the PICOT question components

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(100.0%), followed by cultivating a spirit of inquiry as essential for implementing evidence-based practice in clinical settings (94.0%) and evaluation of evidence-based quality improvement focuses on patient outcomes (78.0%). The lowest percentage of correct responses was reported for developing clinical practice guidelines (CPGs) may require expert opinion when research evidence is unavailable (8.0%.(

Table (4) shows the distribution of nurse managers' knowledge regarding searching the literature. The highest percentage of correct responses was reported for systematic reviews synthesize the findings of relevant research studies (54.0%), followed by the Cochrane Library provides rigorous systematic reviews (48.0%) and evidence-based clinical practice guidelines provide useful knowledge for clinical practice (48.0%). Lower percentages of correct responses were reported for the National Guideline Clearinghouse is used to locate clinical practice guidelines (40.0%) and a single journal article is the least clinically useful evidence-based practice resource on the internet (38.0%), which recorded the lowest percentage of correct responses

Table (5) shows the distribution of nurse managers' knowledge regarding critical appraisal. The highest percentage of correct responses was reported for systematic reviews, and meta-analyses represent the highest level of research evidence (86.0%). Lower percentages of correct responses were reported for critical appraisal evaluates the validity, reliability, and applicability of a study (16.0%) and critical appraisal involves evaluating systematic reviews and clinical guidelines (10.0%), which recorded the lowest percentage of correct responses.

Table (6) shows the distribution of nurse managers' knowledge regarding models for implementing evidence-based practice. The highest percentage of correct responses was reported for the Iowa Model begins by identifying a problem-focused or knowledge-focused trigger that indicates a need for practice change (60.0%), followed by the ACE Star Model follows five stages of knowledge transformation (50.0%). None of the nurse managers (0.0%) correctly identified the stages of the Stetler Model, representing the lowest percentage of correct responses.

Table 7 shows the distribution of nurse managers' knowledge across the six evidence-based practice knowledge dimensions. The highest percentage of correct responses was reported for formulating clinical problems (100.0%), followed by evidence-based practice and related concepts (60.0%) and the evidence-based practice process (58.0%). Lower percentages of correct responses were observed for searching the literature (46.0%), critical appraisal (42.0%), and models for implementing evidence-based practice (36.0%), which recorded the lowest percentage of correct responses. Overall, 66.0% of nurse managers demonstrated correct knowledge, whereas 34.0% demonstrated incorrect knowledge across the evidence-based practice knowledge dimensions.

Table 8 shows the distribution of nurse managers' evidence-based practice activities according to the frequency of practice. The highest percentage of nurse managers frequently reported accessing the Cochrane Database of Systematic Reviews (58.0%), followed by integrating the evidence found with their expertise (52.0%) and critically

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appraising the identified literature (48.0%). In contrast, the highest percentages of nurse managers never performed sharing information with colleagues (62.0%), formulating a clearly answerable question as the beginning of the process toward improving nursing practice (54.0%), and tracking down relevant evidence once the question had been formulated (50.0%). The percentage of nurse managers who sometimes performed evidence-based practice activities ranged from 0.0% to 18.0% across the different practice dimensions.

Table 9 shows the distribution of nurse managers' attitudes toward evidence-based practice. The highest percentage of nurse managers agreed that evidence-based nursing practice can improve patient outcomes (82.0%), followed by the belief that evidence-based nursing practice should be an integral part of nurses' clinical experience (80.0%), evidence-based practice competencies have helped (74.0%), and evidence-based nursing practice has significantly helped in nursing practice (66.0%).

In contrast, the highest percentages of nurse managers disagreed that evidence-based nursing practice disregards clinical experience (82.0%), that previous clinical experience is more important than research findings in selecting the best intervention (70.0%), and that it is difficult to change traditional practice (54.0%). The percentage of nurse managers with neutral attitudes ranged from 6.0% to 26.0% across the attitude items.

Table 10 shows the distribution of nurse managers' perceived barriers to evidence-based practice implementation. Regarding organizational barriers, the highest percentage of nurse managers agreed that there was a heavy workload in the hospital (86.0%), followed by not having enough time to read research (84.0%), research reports/articles were not readily available (74.0%), and insufficient human resources in the hospital (68.0%).

In contrast, the highest percentages of nurse managers disagreed that there was resistance from hospital administration to changing nursing practice (88.0%), nurse managers were not supportive of implementing evidence-based nursing practice (82.0%), and the hospital had no research dissemination center (74.0%). Regarding individual barriers, the highest percentage of nurse managers agreed that they adhered to traditional ways of practice (62.0%), followed by lack of knowledge of the evidence-based practice process (50.0%) and lack of knowledge of research (38.0%). The highest percentages of disagreement were reported for lack of ability to use computers (84.0%), lack of proficiency in the English language (78.0%), and not caring about new ways of practice (62.0%)

Table 11 reveals that there was a statistically significant difference in total knowledge level during assessment. As shown (54 %) of nurse manager scored moderate (50-<70%) pre-program, while 8% of nurse managers scored high (70- 100%)

Table 12 shows the frequency distribution of nurse managers' practice levels 42.0% of nurse managers had a low level of practice, 24.0% had a moderate level, and 34.0% had a high level .

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Table 13 shows the frequency distribution of nurse managers' attitude levels toward evidence-based practice 68.0% of nurse managers had a negative attitude. Conversely, 32.0% of nurse managers demonstrated a positive attitude.

Regarding evidence-based practice knowledge, statistically significant relationships were found with gender (F = 7.2, p = 0.01), age (F = 19.8, p = 0.00), marital status (F = 7.4, p = 0.00), educational level (F = 16.8, p = 0.00), workplace (F = 5.3, p = 0.001), and participation in medical/nursing research (F = 7.1, p = 0.002). No statistically significant relationship was found between years of experience and knowledge (F = 0.004, p = 0.9)

Regarding evidence-based practice, statistically significant relationships were found only with educational level (F = 28.7, p = 0.00) and participation in medical/nursing research (F = 12.1, p = 0.00). Other personal characteristics did not show statistically significant relationships with practice scores.

Table 1: Distribution of Nurse Managers According To Their Personal Characteristics (N = 50(

Personal characteristics	**No.**	%
Gender		
Female	42	84.0
Male	8	16.0
Age		
35>–30	18	36.0
40>–35	28	56.0
+40	4	8.0
Marital status		
Divorced	7	14.0
Married	18	36.0
Single	25	50.0
Education		
Bachelor’s degree	19	38.0
Master’s degree	31	62.0
Experience		
8>–5	6	12.0
+8	44	88.0
Workplace		
Ambulatory	9	18.0
Critical	10	20.0
Medical	12	24.0
Quality	9	18.0
Surgical	10	20.0
Participation in medical/nursing research		
No	24	48.0
Yes	26	52.0

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Table 2: Description of Nurse Managers' Knowledge

:1**Evidence-Based Practice and Related Concepts**	**Correct. No.**	**Correct %**	**Incorrect No.**	**Incorrect %**	**Mean**	**SD**
EBP integrates the evidence, clinical expertise and patient preferences.	7	14	43	86	0.14	0.35
The evidence-based practice was founded by Dr. Archie Cochrane.	32	64	18	36	0.64	0.48
External evidence is generated through rigorous research.	25	50	25	50	0.50	0.51
Internal evidence is generated through clinical practice and professional experience.	4	8	46	92	0.08	0.27
Synthesized research evidence provides the strongest basis for clinical decision-making.	23	46	27	54	0.46	0.50
Stronger evidence increases confidence	8	16	42	84	0.16	0.37
Foreground questions are not limited to disease-oriented information.	47	94	3	6	0.94	0.24
Evidence-based practice and research utilization are related but not synonymous.	6	12	44	88	0.12	0.33
Narrative reviews provide weaker evidence than systematic review.	18	36	32	64	0.36	0.48
Background questions seek general information about a clinical issue.	44	88	6	12	0.88	0.33
Total					4.28	3.86

Table 3

2**Evidence-Based Practice Process and formulating clinical problems**	**Correct No.**	**Correct %**	**Incorrect No.**	**Incorrect %**	**Mean**	**SD**
Developing (CPG) clinical practice guidelines may require expert opinion when research evidence is unavailable.	4	8	46	92	0.08	0.27
Evaluation of evidence-based quality improvement focuses on patient outcomes.	39	78	11	22	0.78	0.42
Cultivating a spirit of inquiry is essential for implementing EBP in clinical settings.	47	94	3	6	0.94	0.24
PICOT question	50	100	0	0	1.00	0.00
Total					2.8	0.93

Table 4

:3**Searching the Literature**	**Correct No.**	**Correct %**	**Incorrect No.**	**Incorrect %**	**Mean**	**SD**
Systematic reviews synthesize the findings of relevant research studies.	27	54	23	46	0.54	0.50
A single journal article is the least clinically useful EBP resource on the internet.	19	38	31	62	0.38	0.49
The Cochrane Library provides rigorous systematic reviews.	24	48	26	52	0.48	0.50
Evidence-based clinical practice guidelines provide useful knowledge for clinical practice.	24	48	26	52	0.48	0.50

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The National Guideline Clearinghouse is used to locate clinical practice guidelines.	20	40	30	60	0.40	0.49
Total					2.28	2.48

Table 5

:4**Critical Appraisal**	**Correct No.**	**Correct %**	**Incorrect No.**	**Incorrect %**	**Mean**	**SD**
Critical appraisal involves evaluating systematic reviews and clinical guidelines.	5	10	45	90	0.10	0.30
Critical appraisal evaluates the validity, reliability, and applicability of a study.	8	16	42	84	0.16	0.37
Systematic reviews and meta-analyses represent the highest level of research evidence.	43	86	7	14	0.54	0.50
Total					80	1.1

Table 6: Model for Implementation of EBP

:5**Models for Implementing Evidence-Based Practice**	**Correct No.**	**Correct %**	**Incorrect No.**	**Incorrect %**	**Mean**	**SD**
The ACE Star Model follows five stages: discovery, evidence summary, translation, practice integration, and evaluation.	25	50	25	50	0.50	0.51
The Stetler Model follows five stages: preparation, validation, comparative evaluation and decision-making, translation and application, and evaluation.	0	0	50	100	0.00	0.00
The Iowa Model begins by identifying a problem-focused or knowledge-focused trigger that indicates a need for practice change.	30	60	20	40	0.60	0.49
Total					1.10	1.00

Table 7: Description of Nurse Mangers Knowledge Dimensions

Knowledge dimension	**Correct No.**	**Correct %**	**Incorrect No.**	**Incorrect %**
Evidence based practice and related concepts	30	60	20	40
Evidence based practice process and formulating clinical problem	29	58	21	42
Searching literature	23	46	27	54
Critical appraisal	21	42	29	58
Models for implementing Evidence-based practice	18	36	32	64

Table 8: Description of Nurses Managers Practice

Practice activity	**Never No.**	**Never %**	**Sometimes No.**	**Sometimes %**	**Frequently No.**	**Frequently %**	**Mean**	**SD**
Formulated a clearly question	27	54	5	10	18	36	3.06	1.13
Finding relevant evidence	25	50	4	8	21	42	2.74	1.38
Critically appraised any literature	22	44	4	8	24	48	2.66	1.32
Integrating evidence with expertise	24	48	0	0	26	52	2.70	1.31

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Evaluating practice outcomes	22	44	9	18	19	38	2.68	1.38
Sharing information with colleagues	31	62	9	18	10	20	3.34	1.10
Using evidence to improve practice	25	50	9	18	16	32	2.94	1.25
Evaluating practice-change outcomes	24	48	7	14	19	38	2.84	1.28
Accessing the Cochrane systematic reviews database	14	28	7	14	29	58	2.24	1.30
TOTAL							25.20	9.72

Table 9: Description of Nurse Managers' Attitudes toward Evidence-Based Practice

Attitude item	Agree No.	Agree %	Neutral No.	Neutral %	Disagree No.	Disagree %	Mean	SD
EBNP is emphasized in clinical settings.	27	54	3	6	20	40	2.14	0.97
Clinical nurse practitioners should have EBNP knowledge and skills	30	60	6	12	14	28	2.32	0.89
EBNP can prevent healthcare disputes	23	46	4	8	23	46	2.00	0.97
EBNP competencies improve nursing practice	37	74	7	14	6	12	2.62	0.70
significantly in nursing practice	33	66	9	18	8	16	2.50	0.76
I feel that EBNP is a waste of time	29	58	7	14	14	28	1.70	0.89
Clinical experience is more important than research findings.	8	16	7	14	35	70	2.54	0.76
EBNP should be an integral part of nurses' clinical experience	40	80	7	14	3	6	2.74	0.56
I feel that it is difficult for me to change my traditional practice	20	40	3	6	27	54	2.14	0.97
I feel that EBNP disregard clinical experience.	2	4	7	14	41	82	2.78	0.51
I wish that EBNP can improve patient outcomes.	41	82	9	18	0	0	2.82	0.39
I prefer tried and trusted practices over new ones	18	36	13	26	19	38	2.02	0.87
Total							25.96	5.36

Table 10: Description of Nurse Managers' Perceived Barriers to Impalement EBP

Barrier	Agree No.	Agree %	Neutral No.	Neutral %	Disagree No.	Disagree %	Mean	SD
Organization barriers								
there are insufficient human resources in the hospital	34	68	6	12	10	20	2.48	0.81
Access to research evidence is poor (or no computers, or data bases access)	17	34	13	26	20	40	1.94	0.87

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there is no adequate resources for implementation	10	20	8	16	32	64	1.56	0.81
Research reports/articles are not readily available.	37	74	13	26	0	0	2.74	0.44
there is a heavy workload in the hospital	43	86	3	6	4	8	2.78	0.58
The hospital has no disseminating research center.	6	12	7	14	37	74	1.38	0.70
Nurse managers are not supportive to implementing EBNP.	5	10	4	8	41	82	1.28	0.64
There is resistance from hospital administration to change nursing practices	2	4	4	8	44	88	1.16	0.47
Individual barriers								
I do not have time to read research.	42	84	4	8	4	8	2.76	0.59
I am lacking knowledge of the research.	19	38	5	10	26	52	1.86	0.95
I am lacking knowledge of the process and evidence-based nursing.	25	50	9	18	16	32	2.18	0.90
I do not have autonomy to change practice	14	28	9	18	27	54	1.74	0.88
I am lacking proficiency in English language.	0	0	11	22	39	78	1.22	0.42
I am lacking the ability to deal with computer	0	0	8	16	42	84	1.16	0.37
I hold on to traditional ways of practice.	31	62	3	6	16	32	2.30	0.93
I don't care about new ways of practice.	14	28	5	10	31	62	1.66	0.89
Total							23.86	3.86

Table 11: Levels of Nurse Managers' Total Knowledge Score Regarding EBP) (N=50(

Personal characteristics	Knowledge X̄	Knowledge SD	Knowledge F	Knowledge P	Practice X̄	Practice SD	Practice F	Practice p
Experience			0.004	0.9			1.3	0.2
8>-5	16.67	4.5			29.5	7.92		
+8	16.57	3.52			24.61	9.87		
Gender			7.2	*0.01			0.2	0.6
Female	17.14	3.61			25.48	9.96		
Male	13.63	1.51			23.75	8.8		
Age			19.8	*0.00			2.8	0.06
35>-30	19.72	3.23			28.67	9.63		
40>-35	14.57	2.27			22.39	9.35		
+40	16.5	3			29.25	7.89		
Marital status			7.4	*0.00			0.7	0.5
Divorced	13	4.36			18	15.59		
Married	15.16	1.89			24.72	9.64		
Single	18.22	3.49			27.11	9.05		
Education			16.8	*0.00			28.7	*0.00
Bachelor's Degree in nursing	14.26	3.05			17.68	6.73		
Master's Degree in nursing	18	3.17			29.81	8.33		

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Work place			5.3	*0.001			1.1	0.4
Ambulatory	14.44	3.36			22.78	11.7		
Critical	14.5	1.72			21.5	8.2		
Medical	19.25	4.37			25.08	8.64		
Quality	18.33	2.74			28.78	10.85		
Surgical	15.8	2.2			28	9.31		
Participation in medical/nursing research			7.1	*0.002			12.1	*0.00
No	14.74	2.97			19.17	8.39		
Yes	18.19	3.43			30.12	7.74		

Table 12: Frequency Distribution of Total Nurse Managers Practices Regarding EBP (N=50(

Levels knowledge	No.	%
Unsatisfactory <50%	19	38.0
Moderate 50-<70%	27	54.0
High 70-100%	4	8.0

Table 13 Frequency Distribution of Total Nurse Managers Attitude Levels (N=50(

Practices levels	No.	%
Low < 35	21	42.0
Moderate 35- 50	12	24.0
High >50	17	34.0

Table 14: Relation between Nurse Managers' Personal Characteristics and Evidence Based Practice Knowledge and Practices

Attitude levels	No.	%
Negative <80%	34	68.0
positive ≥80%	16	32.0

4. DISCUSSION

The frequency distribution of nurse managers' personal characteristics revealed that the majority of participants were female, aged between 35 and less than 40 years, and had more than eight years of professional experience. Nearly two-thirds held a master's degree in nursing, indicating a relatively high level of academic preparation. Slightly more than half had previous experience participating in medical or nursing research, while the remainder had no prior research experience. Participants were recruited from a variety of clinical departments, including medical, surgical, critical care, ambulatory care, and quality departments, providing representation across diverse nursing management settings. These findings suggest that the study sample consisted of experienced and academically prepared nurse managers from different clinical specialties, a demographic profile comparable to previous studies in which nurse leaders were predominantly experienced, highly educated, and occupied diverse leadership positions within healthcare organizations [10-11-12]. As regard, evidence-based practice concepts and process: the current study showed that the highest percentage of correct responses was reported for evidence-based practice process followed by evidence-based practice and

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related concepts. While lower percentages of correct responses were observed for searching the literature, critical appraisal and models for implementing evidence-based practice .

At the same context, these findings congruent with [13] who reported that according to the dimensions of knowledge of evidence-based practice, the majority of nurse managers had high levels of knowledge according to concept of evidence-based nursing management and followed by its important. In addition, around half of nurse managers had moderate level of knowledge according to facilitator and barrier of evidence-based nursing management, respectively.

Furthermore, these findings agree with a study by [14] which concluded that most nurses are uninformed of the significance of EBP in their profession. Also, [16] concluded that (69%) of nursing staff were agree with EBP process and only (17%) of them were disagree with EBP process.

However, these findings contradicted with study by [15] who reported that the majority of the study participants are hardly familiar with the definition and concept of EBP. These findings against study by [17] who concluded that although, the nurses viewed EBP positively, and their attitude towards EBP seemed more positive but they did not use it much because they lacked the organizational support and competence to do so.

As regards searching literature dimension, the current study revealed that highest percentage of correct responses was reported for systematic reviews synthesize the findings of relevant research studies (54.0%), followed by the Cochrane Library provides rigorous systematic reviews (48.0%) and evidence-based clinical practice guidelines provide useful knowledge for clinical practice (48.0%.(

This finding contradicted with the study's findings by [18] which revealed that the participants used Google as a common source of information and only few nurses do search by using PubMed. On the other hand,[15] discovered that the participants used Google as their primary search engine .

Also, [19] exhibited that (84.4%) of the participants extended their information from journals, (83.3%) from conferences, (75.3%) from workshops .

In addition, [16] shows that high percent (74.6%) of nursing staff were frequently and always use ways done in providing nursing care as the main source of knowledge followed by (74.1%) for personal experience, and (68.4%) the repeated actions for years with patients. As well as more than (66 %) of nursing staff used information from local policy and guidelines. On the other hand, low percent (31.2%) of nursing staff used information from pharmaceutical representatives as a source of knowledge.

As regards critical appraisal dimension, The highest percentage of correct responses was reported for systematic reviews, and meta-analyses represent the highest level of research evidence (86.0%).

These findings matched with [20] who reported that majority of participants found that the models and frameworks gave basic instructions on acquiring literature, such as ‘conduct

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systematic search' or 'acquire and others recommended sources from previously generated evidence, such as guidelines and systematic reviews. Also, [21] concluded that systematic reviews as research evidence received the highest percentage among study samples .

As regards models for implementing evidence-based dimension, The highest percentage of correct responses was reported for the Iowa Model begins by identifying a problem-focused or knowledge-focused trigger that indicates a need for practice change (60.0%), followed by the ACE Star Model follows five stages of knowledge transformation (50.0%.(

At the same context, this result congruent [22] who reported that the Iowa EBP model is the most popular model used and had requests for permission to use it and has been updated from its initial development and publication. Other models provided tools and contextual instruction such as the Johns Hopkin's model which includes a large number of supporting tools for developing PICOs, instructions for grading literature and project implementation .

By contrast, the study by [23] showed that the ACE Star model and the An Evidence Implementation Model for Public Health Systems only provide high level overview and general instructions compared with other models and frameworks.

Regarding level of knowledge about EBP, the current study showed that nurse managers had moderate knowledge level about evidence-based practice. From the investigator perspective, this result may be due to the highest percent of nurse managers had master's degree in nursing which supported their knowledge regarding evidence-based research process.

Similarly, these results were agreed with [24] who indicated that nurse managers had moderate mean scores regarding knowledge about evidence-based management. Also, the current finding is consistent with [25] who reported that most nurse managers had moderate level of knowledge about evidence-based management. In addition, the present results agreed with [26] who found that nurse managers had moderate level of knowledge regarding evidence-based practice .

In contrast, the current results were not consistent with [27] who revealed that nurse managers' knowledge level was lower due to lack of training on evidence-based management, which affected negatively on their practice of evidence-based decision-making. Also, these results were disagreed with [28] who reported that the highest mean of nurse managers had low knowledge level about evidence-based management .

In addition, the results of [15] stated that nurse managers had limited awareness of evidence-based decision making due to the lack of educational programs on evidence-based management for nurse managers. [29] reported that the highest nurses' knowledge was about adopting EBP based on patient's subjective and objective data and the lowest was adopting EBP based on Research findings.

For practice, the current study revealed that the highest percentage of nurse managers frequently reported accessing the Cochrane Database of Systematic Reviews, followed

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by integrating the evidence found with their expertise and critically appraising the identified literature. As regards level of practice, the current study showed that most nurse managers exhibit low level of practice about applying EBP. From the investigator point of view, this result may be due to nurse managers facing many challenges in searching for best evidence and applying them in daily clinical practice as limited time, heavy workload and lack of resources and other administrative constraints .This result contradicted with [13] who elaborated that the highest percent of the nurse managers had moderate utilize of evidence's sources. This result may be due to the interest of nursing managers in searching for policies and regulations resources because of its positive effect on managerial decision-making related to their work .Also, the current results agreed with [30] who clarified that mangers knowledge affect utilization of evidence-based management sources and process. The present findings in the same line with [31] who concluded that there is a primary need for improving the knowledge level of all nurse managers regarding the evidence-based management process and utilization to increase the use of sources of evidence. For attitude, the current study showed that the highest percentage of nurse managers agreed that evidence-based nursing practice can improve patient outcomes, followed by the belief that evidence-based nursing practice should be an integral part of nurses' clinical experience, evidence-based practice competencies have helped and evidence-based nursing practice has significantly helped in nursing practice. Regarding, level of attitude of nurse managers about EBP, the current study denotes that most nurse managers had negative attitude toward EBP. From the investigator point of view, this result could be due to nurse managers facing many challenges in searching for best evidence and applying them in daily clinical practice as limited time, heavy workload and lack of resources and other administrative constraints . This result is congruent with [32] who reported that the nurse managers expressed a positive view of EBP recognizing its potential to enhance patient care, improve staff professionalism and guide evidence-based decision-making and its benefits in clinical practice. At the same context, [33] concluded that the nurse managers view EBP as valuable, essential, and evidence- based with practical applications in real-life situations and this positive view about EBP among the nurse managers means they are transformational leaders whose personal qualities and actions inspire their staff to give their best .Also, this result aligns with [34] who found that study samples had positive attitudes toward EBP which can positively influence nursing practices, leading to positive patient outcomes. In addition, [35] reported that nurse managers expressed positive attitude and their readiness to support any nurse to implement research utilization .

In contrast, the findings of the current study contradicted with [29] who demonstrated that the majority of the studied nurses had a negative attitude regarding EBP. Many studies by [36-37-38] have identified negative attitude toward EBP and low research utilization by nurses and have criticized limited leadership support for it On other hand, [39-40-41-42] found that despite the nurse managers' positive perception of EBP they mostly do not implement it in their managerial practices due to lack of autonomy. This could be attributed to lack of nurses' involvement in policy formulation in healthcare as they are mostly ignored during this important process .For organizational barriers, the current

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study showed that the highest percentage of nurse managers agreed that there was a heavy workload in the hospital followed by not having enough time to read research, research reports/articles were not readily available and insufficient human resources in the hospital .For individual barriers, the current study presented that the highest percentage of nurse managers agreed that they adhered to traditional ways of practice, followed by lack of knowledge of the evidence-based practice process and lack of knowledge of research .This result consistent with [43] who reported that a major repetitive barrier to evidence-based management was the lack of support which can come from colleagues, supervisors, managers, and at higher levels, from policymakers. Also, this finding agreed with [44] who found that nurse managers identified that applying traditional methods of practice and teamwork support was the most barrier of evidence-based management.

In the context, this result matched with the results of [13] who revealed that the highest mean was regarding the heavy work, limited time and team support. These results may be due to resistance of the teamwork to use of evidence sources, and lake of support from professional colleagues in nursing scientific research .In addition, study by [45] revealed that nurse managers cannot follow evidence-based management recommendations due to lack of educational training programs, lack of access to guidelines and literature. Another study by [46] found that study's participants' perception of EBP as abstract and far from daily practice has been associated with a lack of institutional support and unfavorable organizational climate for EBP implementation.

Other studies by [47-48]showed that organizational factors and structural barriers such as lack of clarity in tasks and responsibilities identified as a major barriers for the effective implementation of EBP among nurse managers and the absence of institutional incentives for nurses identified as a critical barrier for EBP implementation in nursing practice. Also, this findings consistent with [46] who indicated that most participants pointed many barriers that hinder implementation of EBP including (a lack of decision-making, excessive organizational fragmentation, lack of information transmission systems, an overwhelming workload for nurses and supervisors, multiple tasks placed on the shoulders of nursing supervisors and excessive bureaucracy.

The current study summarizes that there was statistical relation in the mean score of nurse managers' personal characteristics (age, gender, marital status, educational level and participation in medical/nursing research and EBP knowledge except for years of experience there was no statistical relation. Regarding EBP practices, statistically significant relationships were found only with educational level and participation in medical/nursing research, Other personal characteristics did not show statistically significant relationships with practice scores .At the same line, this result congruent with [49] who concluded there were positive strong associations between age of participants and their years of experience in pre, post and in follow-up of program. at the same line[10] indicated significant relation between participants personal characteristics (age, gender and educational level) and EBP application .Similarly, [29] showed that there was statistically significant relation between nurses' knowledge about EBP and their

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educational qualification and there was statistically significant relation between nurses' perception regarding EBP and their gender, educational qualification, and experience . Conversely, this result contradicted with [50] who displayed that no relation found between nurse mangers age, gender and educational qualification and evidence-based practice implementation. Also, [51] reported no association found among study samples characteristics and their ability to apply EBP .On other hand, [46] reported that it is noteworthy how clinical experience was seen as valueless or even negative and a barrier for EBP as younger nurses were considered better equipped to implement EBP despite having almost no clinical experience, while older nurses with vast experience were perceived as resistant to EBP implementation.

5. CONCLUSION AND RECOMMENDATIONS

Most nurse managers demonstrated moderate knowledge of evidence-based practice, while low practice and negative attitudes toward evidence-based practice predominated. Heavy workload, limited time to read research, and inadequate availability of research reports were the most frequently perceived barriers to evidence-based practice implementation. Conclusion: there is no statistical correlation between nurse manger knowledge and practice and based on the findings of the present study, it is recommended that hospital administration provide continuous education and training programs on evidence-based practice (EBP) for nurse managers to strengthen their knowledge and improve its application in daily practice.

Hospital leaders should also ensure easy access to research databases, clinical guidelines, and other evidence resources, while addressing barriers such as heavy workload, limited time, and insufficient resources that may hinder EBP implementation. Regarding nursing education, EBP should be integrated into undergraduate and postgraduate nursing curricula.

Nurse managers should also be encouraged to attend workshops, seminars, and continuing education programs to enhance their knowledge and skills in evidence-based practice. Regarding nursing research, further studies should be conducted using larger samples and in different healthcare settings to confirm the present findings. Future research is also needed to explore effective strategies for reducing organizational and individual barriers and to evaluate the long-term impact of educational programs on evidence-based practice among nurse managers.

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