

## Assessment of Evidence Based Practice's Knowledge and Attitude from Maternity Nurse's Point of View



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### 1.ABSTRACT

**Background:** Evidence-Based Practice (EBP) is a technique used for solving problems regarding patient care leading to lower health costs, better patient outcomes and safer care. **Aim:** The study aimed to assess Evidence Based Practice's knowledge and attitude from maternity nurse's point of view. **Design:** A descriptive cross sectional study design was utilized. Setting: The study was conducted in the obstetrics and gynecology departments at Mansoura University Hospital. **Sample:** A convenient sample of 120 maternity nurses **Tools:** One tool was use it consists of three parts . part 1: Socio demographic & professional data of maternity nurses. Part II: Maternity nurses knowledge about EBP question. Part III: Attitude of maternity nurses regard EBP scale. **Results:** The present study results showed that most of the studied nurses (97.5%) know that protein supplementation in women at risk for low birth weight & stop smoking and alcohol for reducing low birth weight are effective and safe ANC interventions. About (73.3%) of the studied nurses didn't know that careful monitoring of the progress of labor by using WHO partograph was useful practice during labor. Majority (87.5 %) of them know that routine administration of vitamin K to all healthy newborns was insufficient evidence practice during postpartum. Also, less than half of studied nurses (48.3%, 39.2% respectively) strongly agreed that EBP encourages patient-centered care, the that, the application of EBP improves patient's healthcare outcomes. **Conclusions:** Majority of the studied nurses had a poor general knowledge about EBP. Two thirds of them had fair knowledge regard EBP in Antenatal & labor. Also majority of them had fair knowledge regard EBP in postpartum. Moreover, more than three quarters of studied nurses had positive attitude toward EBP. **Recommendations** Training program should be utilized for maternity nurses to improve their knowledge about EBP.

**Keywords:** Attitude , Evidence Based Practice, Knowledge& Nurses.

### 2.Introduction:

Evidence-Based Practice (EBP) is a technique used for solving problems regarding patient care by integrating well- designed evidence with the patient preferences, patient assessments, and health professionals' expertise leading to lower health costs, better patient outcomes and safer care (Alatawi, et al.,2020

Evidence-Based Practice (EBP) has been presented in hospitals around the world as a struggle to facilitate the implementation of research findings in clinical practice and deliver care based on information about what works (Tucker et al. 2021). Implementation of EBP in different health care system leads to enhanced quality of care, reduced costs, and improve individual and professional development of nurses and other health workers (Azmoude et al., 2019).

Moreover, World Health Organization emphasized that health care services should be based on the best research evidence, because implementation Evidence-Based Practice is

associated with all aspects of quality in health care such as efficient use of resources, improvement of patient care, decreasing costs and length of hospital stay, increasing patient satisfaction and elimination of unnecessary practices (WHO, 2022).

Nurses and midwives have a dynamic role in the advancement of health care and providing better services during all stages of women of cycle. Implementation of EBP is vital in improving nurses' professional development, responsibility, and capabilities, and it has become an important subject in nursing and has integrated into daily practice. In addition, better decisions in services delivery can be taken when nurses' practice based on the scientific EBP (McKinney, James, Murray, Nelson, & Ashwill, 2021).

Attitudes play an important role in adopting, implementing, and maintaining EB in clinical settings. Positive attitudes towards EBP could be important step in adopting EBP. According to the Theory of planned behavior, beliefs, attitudes, and social standards will influence individuals'

intentions to engage in selected behaviors. Intentions as self-instructions and motivations to engage in innovative behaviors will lead to adoption and use of EBP. (Qiao, S., Li, X., Zhou, Y., Shen, Z., & Stanton, B ,2018)

Implementing EBP needs skills such as conducting literature searches and evaluating evidence .Knowledge, skills, attitudes and practice are the basic of implementing EBP. Findings from previous studies indicated that nurses' knowledge, attitudes and beliefs about EBP can play a crucial role to the extent to which EBP is implemented (Moore ,et al.,2016).

#### Significance of the study

In Egypt, EBP has been rapidly growing in the health professions. EBP is an essential skill that has been shown to increase positive health care outcomes and may bridge the gap between research and practice (Youssef, Alshraifeen, Alnuaimi, & Upton, 2018).

Nurses' knowledge of EBP and their positive attitude towards it will contribute to its implementation in healthcare system. Obtaining knowledge about research methods and having the skill to evaluate research reports critically may enable overcoming the obstacles delaying the application of research findings and thus will lead to improvement of healthcare quality. Hence, the nurses knowledge, attitude towards EBP are so important (Alkhatib, Ibrahim, Ameenuddin, & Ibrahim,(2021).

Nurses increasingly requested to apply evidence in to the practice in order to improve the quality and efficiency of patient care. Nurses need to adequate knowledge and applicable research utilization to employ EBP and promote quality of care effectively (Alkhatib et al.,2021), Therefore, the current study was conducted.

#### Aim of the study :

This study aimed to assess Evidence Based Practice's knowledge and attitude from maternity nurse's point of view.

#### Research questions :

- 1- Does maternity nurses have knowledge regarding Evidence Based Practice?
- 2- What is the attitude of maternity nurses regarding Evidence Based Practice?

### 3. Methods

#### Study Design:

A descriptive cross-sectional study design was utilized .

#### Study Setting

The study was conducted in the obstetrics and gynecology departments at Mansoura University Hospital. It consisted of 7 departments which are outpatient clinics, emergency unit, departments 9,10,15,18, and operation department. The 9<sup>th</sup> ,10<sup>th</sup> ,18<sup>th</sup> departments located in 3<sup>rd</sup> floor, and the 15<sup>th</sup> department located in 4<sup>th</sup> floor. Obstetric departments receive high risk cases, cases with gynecological problems and post-partum cases. Emergency unit located in ground floor and received emergency cases& normal delivery cases during hot days (Sunday – Tuesday and Thursday). Operating department located in 3<sup>rd</sup> floor and received cases required surgical intervention as cesarean section hysterectomy and others. Outpatient clinics located in specialized obstetrics and gynecology centers at Mansoura University Hospital. They open daily from Saturday to Wednesday from 9am to 2 p.m and included antenatal clinic, gynecological clinic, molar pregnancy clinic.

#### Sample Type

A convenient sample was used.

#### Study Sample

The study sample included 120 nurses who were working in obstetrics and gynecology departments at Mansoura University Hospital.

#### Sample size

Total coverage because the number of the nurses was limited.

#### Tools of data collection:

Data was collected by using one tool.

#### Part 1: Structured Interview questionnaire:

This tool was developed by the researcher after extensive review of the relevant national and international literature. (Azmoode et al., 2018). It consisted of three parts; **Part 1:** Socio-demographic & professional characteristics of nurses such as age, level of education, working department, working hours, years of experience, employment status, and previous training in Evidence-Based Practice.

**Part 11: Knowledge of maternity nurses regarding Evidence-Based Practice questionnaire:** It was developed by the researcher after reviewing the related literatures (Carvalho et al.,2015& Tunçalp et al.,2017). It was used to assess knowledge of maternity nurses regarding Evidence-Based Practice. It included general knowledge regarding Evidence-Based Practice as (concept of EBP, concept of Evidence-Based nursing Practice, goal of EBP in maternity care,

benefits of EBP in nursing practice, steps of EBP process). Also, nurses knowledge regarding EBP in maternity care: EBP in maternity care included antenatal area, labor area and post-partum area. Evidence Based Practice during antenatal area included 3 domains ,1<sup>st</sup> domain was antenatal care interventions of proven safety and effectiveness and included 9 items, 2<sup>nd</sup> domain was ANC interventions of unknown effectiveness and included 6 items, 3<sup>rd</sup> domain was included ineffective ANC interventions and included 10 items. Evidence Based Practice during labor area included 4 domains ,1<sup>st</sup> domain was practices which are useful and included 13 items, 2<sup>nd</sup> domain was practices which are clearly harmful or ineffective and included 4 items, 3<sup>rd</sup> domain was practices which are insufficient evidence and included 7 items, and 4<sup>th</sup> domain was practices which are frequently used & inappropriately and included 10 items. Evidence Based Practice during postpartum area included 4 domains ,1<sup>st</sup> domain was practices which are useful and included 20 items, 2<sup>nd</sup> domain was practices which are clearly harmful or ineffective and included 7 items, 3<sup>rd</sup> domain was practices which are insufficient evidence and included 2 items, 4<sup>th</sup> domain was practices which are frequently used & inappropriately and included 2 items.

**Scoring system:** Each item was scored as correct answer scored 1 to incorrect answer scored zero. Scores  $\geq 75$  indicated good knowledge, and scores 50 – 75 indicated fair knowledge, and scores  $< 50$  indicated poor knowledge (Carvalho et al.,2015& Tunçalp et al.,2017).

**Part 111: Attitude of maternity nurses regarding Evidence-Based Practice:**

It was adopted from Azza and Hussein ,(2013) to assess maternity nurses' attitude toward Evidence-Based Practice. It consisted of 13 items such as current research findings are useful in the provision of day-to-day nursing practice, adoption of current research findings are useful in the provision of day-to-day nursing practice, adoption of Evidence based practice places too many demands on workload, EBP is not feasible in the organization, application of Evidence based practice improves women healthcare outcomes, EBP encourages patient-centered care, Evidence based practice is a waste of time, the importance of EBP is exaggerated, clinical environments do not encourage the application of EBP..... etc).

**Scoring system:** Each item was scored using five-point Likert scale ranging from strongly agree scored 5 to strongly disagree scored 1. Scores for negative statements are reversed (statement

6,8,12). Scores  $\geq 60$  indicated positive attitude, and scores  $< 60$  indicated negative attitude **Azza and Hussein ,(2013)**.

**Validity of the Study Tools:**

A jury panel was involved three specialists in the field of woman's health and midwifery nursing (Assist. Prof Samia Ibrahim, Assist. Prof: Amal Yousif, Assist. Prof: Eman Fadel) Faculty of Nursing , Mansoura University to test the validity of the developed tools.

**Reliability of the tool:**

Internal consistency and a reliability coefficient (Cronbach's alpha) of the various components of the questionnaire were examined by SPSS software version 22. Cronbach's alpha for knowledge questionnaire is ( 0.732) ,and it was( 0.703)for attitude questionnaire. This means high reliability of the study tools.

**Pilot study**

The pilot study was carried out with 10% (12 nurses) of the studied sample to assess the clarity and applicability of the tools, as well as to estimate the time required for answer. The tool were modified as a result of the analysis of the pilot results, which included paraphrase of some sentences.

**Ethical considerations**

Ethical approval was taken from the research ethics committee at the faculty of Nursing, Mansoura University to implement the study. Prior to the study, a written formal consent was obtained from all participants after clarifying the nature and aim of the study. The study's participation was voluntary and each participant has the right to withdraw from the study at any time. Anonymity, privacy, safety and confidentiality were assured throughout the whole study.

**Research process:**

- The actual field work of the study conducted for six months started from March to August 2020.
- All approval forms were obtained from the responsible authorities to perform the current study, approval was taken from the head of obstetrics and gynecology departments at Mansoura University Hospital. Also, ethical approval was obtained from the research ethics committee at the faculty of Nursing, Mansoura University.
- Data were collected from outpatient clinics, emergency department, departments 9,10,15,18, and operation room at Mansoura University Hospital.

- The researcher attended the previously mentioned setting three days/week till the sample size was calculated.
- The researcher presented herself to nursing staff, and explained the study's aim and methodology in order to get their acceptance and cooperation as well as their informal consent and the researcher assured confidentiality of the collected data.
- The researcher started to collect the data first from nurses in antenatal clinics then, emergency department after that, obstetrics and gynecology departments (9,10,15,18), and operating room.
- The researcher interviewed each nurse individually during resting period to collect data regarding their demographic characteristics, and working department, years of experience, employment status, previous training in Evidence-Based Practice.
- After that, the researcher evaluated nurses knowledge regarding EBP which included general knowledge and knowledge in antenatal, labor, postpartum areas.
- Then the researcher assessed attitude regarding EBP from maternity nurses point of view.
- The researcher asked maternity nurse and recorded her answers in the data collection sheet.
- Each interview took (20-30) minutes to complete the questionnaire.
- The researcher continued to attend the previous mentioned settings until the data collection process was finished.

#### Data Analysis Phase

SPSS (statistical package of social sciences) version 22 was used to code, compute, and statistically analyze the data collected. Data were presented as frequency and percentages (qualitative variables) and mean SD (standard deviation) (quantitative continuous variables). Chi square ( $\chi^2$ ) was used for comparison of categorical variables, and was changed by Fisher exact test (FET) or Mont Carlo Exact test if the expected value of any cell was less than 5. Student's t test was used for comparison of continuous quantitative variables (two groups) and one-way ANOVA (F test) was used for comparison of continuous quantitative variables (more than two groups). The difference was considered significant at  $P \leq 0.05$ .

#### 4. Results:

**Table (1)** shows that one third (35.0% ) of the studied nurses aged from 20-30 years. with

mean age 35.77. More than half (50.8 %) of nurses had a diploma degree and 25% of them working at emergency unit. About (45.8 %) of them had more than 15 years of experiences, and more than half (60.8 %) of them working 48 hours /week, and only (3.3%) of them had previous training about Evidence-Based Practice.

**Figure (1)** illustrates that 83.3% of the studied nurses had fair knowledge , while 16.7 % of them had a poor knowledge regarding general EBP .

**Table (2)** presents that about (100% ,97.5% ) of the studied nurses know that calcium supplementation ,protein supplementation were effective ANC interventions during antenatal. About ( 77.5%, 70.8% respectively) of them know that anti-D given to Rh-negative women who have had an Rh-positive baby , vitamine D supplementation were unknown effective ANC interventions. Also, ( 80.8% ) of them know that routine antenatal pelvic examination to predict preterm labor was harmful ANC intervention .

**Table (3)** shows that about (96.7 % , 95.4% respectively )of the studied nurses know that monitoring the woman's physical and emotional well-being throughout labor , sterility in the cutting of the umbilical cord were useful practices during labor. About (65.0% )of them know that administration of oxytocin at any time before delivery was harmful practice. About (79.2% )of the them know that early clamping of the umbilical cord was insufficient evidence practice during labor. Also, majority (92.5%) of them know that frequent vaginal examinations was inappropriate practice.

**Table (4)** shows that about (99.2% ) of the studied nurses know that early skin-to-skin contact of mother and baby, within 1 hour of birth, daily assessment of the condition of mother & baby in the first week postpartum was useful practice during postpartum. Majority (87.5 % ) of them know that routine administration of vitamin K to all healthy newborns was insufficient evidence practice during postpartum. Also more than half (53.3% ) of them know that introduction of milk supplements to breastfed infants was inappropriate practice during postpartum.

**Table (5)** Presents that about (74.2%, 64.2%, respectively) of the studied nurses agreed that human views and experiences are more valued than evidences from research, the clinical environments do not stimulate the application of EBP. Also, about (48.3%, 39.2% respectively) of them strongly agreed that EBP encourages patient-

centered care, the that, the application of EBP improves patient’s healthcare outcomes.

**Figure (2):** illustrates that 75.8% of the studied nurses had a positive attitude toward EBP, while 24.2% of them had a negative attitude toward EBP.

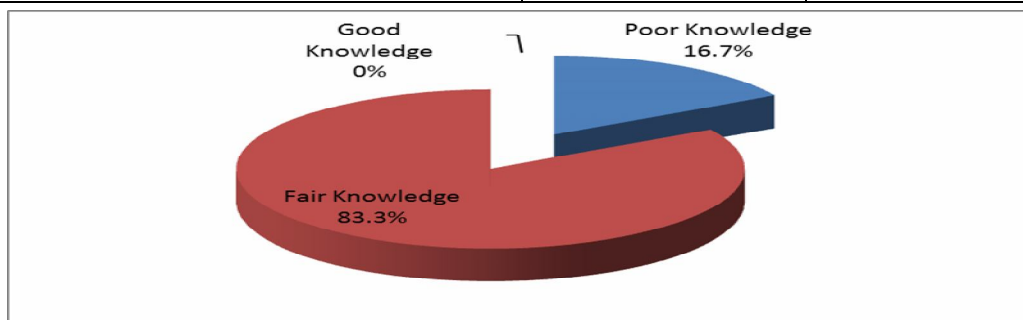
**Table (6)** shows that level of knowledge was significantly differs by nurses' work departments being better among emergency unit & operation room nurses(P=0.027).

**Table (7)** shows that the level of attitude was significantly differs only by nurses' education being more positive among nurses having bachelor's degree or post graduate(P=0.013).

**Figure (3):**reveals that a mild, positive, significant correlation between total knowledge and attitude scores among studied nurses towards Evidence Based Practice(r = 0.287, P0.001).

**Table 1: Distribution of the studied nurses according to their socio-demographic and professional data**

| Items                                      | no (120)                  | %    |
|--|---------------------------|------|
| <b>Age (years)</b>                         |                           |      |
| 20-  | 42                        | 35.0 |
| 30-  | 37                        | 30.8 |
| 40-  | 23                        | 19.2 |
| 50+  | 18                        | 15.0 |
| Range, 22 – 56 years                       | Mean ± SD = 35.77 ± 10.08 |      |
| <b>Education</b>                           |                           |      |
| -Diploma                                   | 61                        | 50.8 |
| -Technical Institute of nursing            | 49                        | 40.8 |
| -Bachelor's degree                         | 8                         | 6.7  |
| -Post graduate                             | 2                         | 1.7  |
| <b>Working departments</b>                 |                           |      |
| -Department 9                              | 17                        | 14.2 |
| -Department 10                             | 14                        | 11.7 |
| -Department 15                             | 14                        | 11.7 |
| -Department 18                             | 13                        | 10.8 |
| -Emergency unit                            | 30                        | 25.0 |
| -Operation room                            | 12                        | 10.0 |
| -Outpatient clinics                        | 20                        | 16.7 |
| <b>Years of experience</b>                 |                           |      |
| < 5  | 24                        | 20.0 |
| 5-   | 18                        | 15.0 |
| 10-  | 23                        | 19.2 |
| ≥ 15                                       | 55                        | 45.8 |
| Range, 2 – 36 years                        | Mean ± SD = 15.66 ± 10.24 |      |
| <b>Working hours / week</b>                |                           |      |
| 36   | 37                        | 30.8 |
| 42   | 10                        | 8.3  |
| 48   | 73                        | 60.8 |
| Range, 36 – 48 hours                       | Mean ± SD = 43.80 ± 5.48  |      |
| <b>Training in Evidence-Based Practice</b> |                           |      |
| -Yes                                       | 4                         | 3.3  |
| -No  | 116                       | 96.7 |



**Figure (1): Total knowledge of studied nurses about General Evidence-Based Practice.**

**Table (2) Distribution of the studied nurses according to their knowledge about Evidence Based Practice in Antenatal (n =120)**

| ANC interventions of proven safety and effectiveness   | Known    |                          | Unknown  |      |
|--|----------|--------------------------|----------|------|
|  | no (120) | %                        | no (120) | %    |
| -Energy/protein supplementation in women at risk for low birth weight.                               | 117      | 97.5                     | 3        | 2.5  |
| -Folic acid supplementation  | 100      | 83.3                     | 20       | 16.7 |
| -Iodine supplementation in populations with high levels of cretinism                                 | 37       | 30.8                     | 83       | 69.2 |
| -Calcium supplementation   | 120      | 100.                     | 0        | 0.0  |
| -Wheat fiber supplementation for constipation.   | 85       | 70.8                     | 35       | 29.2 |
| -Sexual intercourse during pregnancy is safe   | 65       | 54.2                     | 55       | 45.8 |
| -Moderate aerobic exercise during pregnancy is safe  | 47       | 39.2                     | 73       | 60.8 |
| -Acupressure, ginger or antihistamines for nausea control  | 14       | 11.7                     | 106      | 88.3 |
| -Smoking and alcohol cessation for reducing low birth weight   | 117      | 97.5                     | 3        | 2.5  |
| <b>ANC interventions of unknown effectiveness</b>  |          |                          |          |      |
| -Antenatal education for breastfeeding.  | 58       | 48.3                     | 62       | 51.8 |
| -Anti-D given to Rh-negative women who have had an Rh-positive baby, during the 72 hours postpartum. | 93       | 77.5                     | 27       | 22.5 |
| -Attending antenatal classes for reduction of caesarean births.                                      | 49       | 40.8                     | 71       | 59.2 |
| -Vitamine D, Magnesium & Zinc supplementation.   | 85       | 70.8                     | 35       | 29.2 |
| -Routine second-trimester ultrasound in low-risk pregnant women.                                     | 83       | 69.2                     | 37       | 30.8 |
| -Antenatal treatment of pregnant women with suspected toxoplasmosis.                                 | 68       | 56.7                     | 52       | 43.3 |
| <b>Ineffective (Harmful) ANC interventions</b>   |          |                          |          |      |
| -High protein supplementation.   | 39       | 32.5                     | 81       | 67.2 |
| -Energy/protein restriction in overweight pregnant women.  | 91       | 75.8                     | 29       | 24.2 |
| -High iron supplementation.  | 48       | 40.0                     | 72       | 60.0 |
| -Breast examination for increasing chances of breastfeeding.   | 37       | 30.8                     | 83       | 69.2 |
| -Routine antenatal pelvic examination to predict preterm labor                                       | 97       | 80.8                     | 23       | 19.2 |
| -Pelvimetry.   | 34       | 28.3                     | 86       | 71.7 |
| -Uterine Doppler ultrasound for prediction of pre-eclampsia.   | 53       | 44.2                     | 67       | 55.8 |
| -Screening and treatment of asymptomatic bacterial vaginosis in healthy pregnant women.              | 29       | 24.2                     | 91       | 75.8 |
| -Transvaginal ultrasound monitoring for cervical shortening to avoid preterm birth.                  | 60       | 50.0                     | 60       | 50.0 |
| -Antenatal cardiotocography for fetal assessment   | 65       | 54.2                     | 55       | 45.8 |
| <b>Average Score</b>   |          | Mean ± SD = 14.08 ± 2.31 |          |      |
| <b>Average Percent Score</b>   |          | Mean ± SD = 56.30 ± 9.22 |          |      |

**Table (3) Distribution of the studied nurses according to their knowledge about Evidence Based Practice during Labor (n =120)**

| Practices which are Useful  | Known    |      | Unknown  |      |
|---|----------|------|----------|------|
|   | no (120) | %    | no (120) | %    |
| -A personal birth plan during pregnancy   | 95       | 79.2 | 25       | 20.8 |
| -Monitoring the woman's physical and emotional well-being throughout labor and at postpartum period.                      | 116      | 96.7 | 4        | 3.3  |
| -Offering oral fluids during labor and delivery   | 78       | 65.0 | 42       | 35.0 |
| -Respecting women's informed choice of place of birth   | 82       | 68.3 | 38       | 31.7 |
| -Respecting the right of women to privacy in the birthing place   | 115      | 95.4 | 5        | 4.2  |
| -Respecting women's choice of companions during labor and birth   | 87       | 77.5 | 33       | 27.5 |
| -Fetal monitoring with intermittent auscultation.   | 77       | 64.2 | 43       | 35.8 |
| -Careful monitoring of the progress of labor by using WHO partograph  | 32       | 26.7 | 88       | 73.3 |
| -Prophylactic oxytocin in the third stage of labor.   | 102      | 85.0 | 18       | 15.0 |
| -Sterility in the cutting of the umbilical cord   | 115      | 95.4 | 5        | 4.2  |
| -Prevention of hypothermia of the baby.   | 113      | 94.2 | 7        | 5.8  |
| -Early skin-to-skin contact between mother and child and support the initiation of breastfeeding within 1 hour postpartum | 103      | 85.8 | 17       | 14.2 |

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|   |                           |      |     |      |
|---|---------------------------|------|-----|------|
| -Routine examination of the placenta and the membranes.                                     | 57                        | 47.5 | 63  | 52.5 |
| <b>Practices which are clearly harmful or ineffective</b>                                   |                           |      |     |      |
| -Routine intravenous infusion in labor.   | 25                        | 20.8 | 95  | 79.2 |
| -Rectal examination.  | 21                        | 17.5 | 99  | 82.5 |
| -Routine use of enema.  | 68                        | 56.7 | 52  | 43.3 |
| -Use of X-ray pelvimetry.   | 33                        | 27.5 | 87  | 72.5 |
| -Administration of oxytocin at any time before delivery                                     | 78                        | 65.0 | 42  | 35.0 |
| <b>Practices which insufficient evidence</b>  |                           |      |     |      |
| -Routine early amniotomy in the first stage of labor.                                       | 39                        | 32.5 | 81  | 67.2 |
| -Non-pharmacological methods of pain relief during labor                                    | 50                        | 41.7 | 70  | 58.3 |
| -Fundal pressure during labor.  | 89                        | 74.2 | 31  | 25.8 |
| -Active manipulation of the fetus at the moment of birth.                                   | 46                        | 38.3 | 74  | 61.7 |
| -Routine oxytocin, controlled cord traction during the third stage of labor.                | 89                        | 74.2 | 31  | 25.8 |
| -Early clamping of the umbilical cord.  | 95                        | 79.2 | 25  | 20.8 |
| -Nipple stimulation to increase uterine contractions during 3 <sup>rd</sup> stage of labor. | 0                         | 0.0  | 120 | 100. |
| <b>Practices which are frequently used &amp; inappropriately</b>                            |                           |      |     |      |
| -Pain control by systemic agents & epidural analgesia.                                      | 49                        | 40.8 | 71  | 59.2 |
| -Electronic fetal monitoring.   | 43                        | 35.8 | 77  | 64.2 |
| -Wearing masks and sterile gowns during labor attendance.                                   | 36                        | 30.0 | 84  | 70.0 |
| -Repeated or frequent vaginal examinations  | 111                       | 92.5 | 9   | 7.5  |
| -Oxytocin augmentation.   | 41                        | 34.2 | 79  | 65.8 |
| -Routinely moving laboring woman to a different room at onset of 2nd stage.                 | 57                        | 47.5 | 63  | 52.5 |
| -Bladder catheterization.   | 28                        | 23.3 | 92  | 76.7 |
| -Encouraging the woman to push when nearly full dilatation of the cervix has been diagnosed | 43                        | 35.8 | 77  | 64.2 |
| -Routine use of episiotomy.   | 106                       | 88.3 | 14  | 11.7 |
| -Manual exploration of the uterus after delivery.   | 35                        | 29.2 | 85  | 70.8 |
| <b>-Average Score</b>   | Mean ± SD = 19.62 ± 3.66  |      |     |      |
| <b>-Average Percent Score</b>   | Mean ± SD = 56.05 ± 10.46 |      |     |      |

**Table (4) Distribution of the studied nurses according to their knowledge about Evidence Based Practice during Post-Partum (n =120)**

| Practices which are Useful   | Known       |      | Unknown     |      |
|--|-------------|------|-------------|------|
|  | no<br>(120) | %    | no<br>(120) | %    |
| Late clamping of the umbilical cord  | 65          | 54.2 | 55          | 45.8 |
| Advising against the use of combined oral contraceptives in breastfeeding women in the first 6 months after birth, or until weaning. | 67          | 55.8 | 53          | 44.2 |
| BCG immunization of all infants as soon after birth as possible, in populations at high risk of tuberculosis infection               | 63          | 52.5 | 57          | 47.5 |
| Careful supervision of maternal urine volume /8-12 hours postpartum  | 112         | 93.3 | 8           | 6.7  |
| Daily assessment of the condition of mother & baby in the first week postpartum  | 118         | 98.3 | 2           | 1.7  |
| Early skin-to-skin contact of mother and baby, within 1 hour of birth.   | 119         | 99.2 | 1           | 0.8  |
| Encouraging breastfeeding on demand  | 109         | 90.8 | 11          | 9.2  |
| Informing women about all contraceptive methods.   | 45          | 37.5 | 75          | 62.5 |
| Initiating progestogen-only methods after 6 weeks postpartum to breast feeding women, if this is the woman's choice.                 | 32          | 26.7 | 88          | 73.3 |
| Introduction of IUD either in the immediate postpartum (<2 days) or after 4-6 weeks, if this is the method chosen.                   | 73          | 60.8 | 47          | 39.2 |
| Measuring Hb of the woman in the first and 6 weeks after delivery  | 70          | 58.3 | 50          | 41.7 |
| Prevention of hypothermia of the baby, immediately after birth   | 111         | 92.2 | 9           | 7.5  |
| Psychosocial support of caregivers for postpartum women/couples.   | 110         | 91.7 | 10          | 8.3  |
| Regular inspection of the perineum during the first week postpartum  | 105         | 87.5 | 15          | 12.5 |
| Rh-prophylaxis in Rh--ve women who have birth to a Rh +ve infant   | 106         | 88.3 | 14          | 11.7 |
| Rubella vaccination postpartum in women known to be rubella –ve  | 47          | 39.2 | 73          | 60.8 |
| Strict hygiene in the care of the umbilical cord and the cord stump  | 105         | 87.5 | 15          | 12.5 |
| Strict hygienic measures in the care of infants and mothers.   | 115         | 95.8 | 5           | 4.2  |
| Vaccination against diphtheria, pertussis and tetanus (DPT) to begin 6 weeks after birth   | 28          | 23.3 | 92          | 76.7 |
| Vaccination against poliomyelitis & against hepatitis B soon after birth   | 92          | 76.7 | 28          | 23.3 |
| <b>Practices which are clearly harmful or ineffective</b>  |             |      |             |      |
| Giving artificial teats and pacifiers to breastfed infants.  | 80          | 66.7 | 40          | 33.3 |
| Hormonal treatment of postpartum depression  | 31          | 25.8 | 89          | 74.2 |

|   |     |                          |     |      |
|---|-----|--------------------------|-----|------|
| Lactation inhibition by estrogens or bromocriptine.   | 34  | 28.3                     | 86  | 71.7 |
| Limiting suckling time to 10 minutes on each breast or any other restricted period.   | 57  | 47.5                     | 63  | 52.5 |
| Phototherapy for neonatal jaundice in healthy term infants on the third or later days after birth, for bilirubin values <300 mol/l. | 46  | 38.3                     | 74  | 61.7 |
| Prescription of hormonal contraceptives during the first 6 weeks postpartum to breastfeeding mothers.                               | 58  | 48.3                     | 62  | 51.7 |
| Providing breastfed infants bottle supplements with water, glucose or formula while breastfeeding is becoming established.          | 105 | 87.5                     | 15  | 12.5 |
| Rooming-out system of baby care in a hospital or maternity clinic   | 36  | 30.0                     | 84  | 70.0 |
| <b>Practices which insufficient evidence</b>  |     |                          |     |      |
| Antibiotics in the early phase of puerperal mastitis.   | 35  | 29.2                     | 85  | 70.8 |
| Routine administration of vitamin K to all healthy newborns   | 105 | 87.5                     | 15  | 12.5 |
| <b>Practices which are frequently used &amp; inappropriately</b>  |     |                          |     |      |
| (Routine) use of ergometrine for newly delivered women.   | 15  | 12.5                     | 105 | 87.5 |
| Introduction of milk supplements to breastfed infants.  | 64  | 53.3                     | 56  | 46.7 |
| <b>Average Score</b>  |     | Mean ± SD = 19.65 ± 2.61 |     |      |
| <b>Average Percent Score</b>  |     | Mean ± SD = 61.41 ± 8.17 |     |      |

**Table (5): Attitude of studied nurses toward Evidence-Based Practice**

| Nurses attitude   | Strongly disagree |     | Disagree  |      | Uncertain |      | Agree     |      | Strongly agree |      |
|---|-------------------|-----|-----------|------|-----------|------|-----------|------|----------------|------|
|   | no<br>120         | %   | no<br>120 | %    | no<br>120 | %    | No<br>120 | %    | No<br>120      | %    |
| -Current research findings are useful in the provision of day to day nursing practice.              | 0                 | 0.0 | 8         | 6.7  | 32        | 26.7 | 65        | 54.2 | 15             | 12.5 |
| -The clinical environments do not stimulate the application of EBP.                                 | 0                 | 0.0 | 11        | 9.2  | 24        | 20.0 | 77        | 64.2 | 8              | 6.7  |
| -The adoption of EBP places too many demands on my workload.  | 0                 | 0.0 | 14        | 11.7 | 27        | 22.5 | 73        | 60.8 | 6              | 5.0  |
| -The application of EBP improves patient's healthcare outcomes.                                     | 0                 | 0.0 | 0         | 0.0  | 16        | 13.3 | 57        | 47.5 | 47             | 39.2 |
| -EBP encourages patient-centered care.  | 0                 | 0.0 | 3         | 2.5  | 15        | 12.5 | 44        | 36.7 | 58             | 48.3 |
| -I dislike having my clinical/academic practice questioned.   | 0                 | 0.0 | 21        | 17.5 | 49        | 40.8 | 50        | 41.7 | 0              | 0.0  |
| -EBP is a waste of time.  | 0                 | 0.0 | 26        | 21.7 | 32        | 26.7 | 54        | 45.0 | 8              | 6.7  |
| - It is not easy to relate research findings to academic practice.                                  |                   |     | 45        | 37.5 | 33        | 27.5 | 33        | 27.5 | 8              | 6.7  |
| -I stick to the traditional methods rather than changing to new methods of research in patient care | 0                 | 0.0 | 14        | 11.7 | 50        | 41.7 | 56        | 46.7 | 0              | 0.0  |
| -The importance of EBP is exaggerated.  | 0                 | 0.0 | 14        | 11.7 | 57        | 47.5 | 49        | 40.8 | 0              | 0.0  |
| - EBP is too tedious and impractical.   | 0                 | 0.0 | 50        | 41.7 | 62        | 51.7 | 8         | 6.7  | 0              | 0.0  |
| -EBP is not feasible in the organization.   | 0                 | 0.0 | 42        | 35.0 | 41        | 34.2 | 37        | 30.8 | 0              | 0.0  |
| -Human views and experiences are more valued than evidences from research.                          | 0                 | 0.0 | 2         | 1.7  | 27        | 22.5 | 89        | 74.2 | 2              | 1.7  |



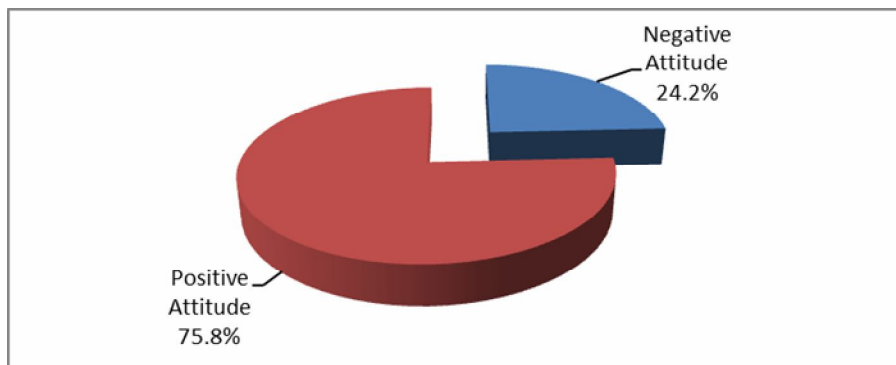


Figure (2): Levels of attitude of studied nurses towards Evidence Based Practice.

Table (6): Relationship between knowledge levels of studied nurses towards Evidence-Based Practice and their socio demographic & professional data

| Socio demographic & professional data       | no<br>120 | Knowledge Levels |      |            |       | Significance test                |
|---|-----------|------------------|------|------------|-------|----------------------------------|
|   |           | Poor (20)        |      | Fair (100) |       |                                  |
|   |           | no               | %    | no         | %     |                                  |
| <b>Age (years)</b>                          |           |                  |      |            |       | $\chi^2=0.586$ ,<br>MEP0.922     |
| 20-   | 42        | 8                | 19.0 | 34         | 81.0  |                                  |
| 30-   | 37        | 6                | 16.2 | 31         | 83.8  |                                  |
| 40-   | 23        | 4                | 17.4 | 19         | 82.6  |                                  |
| 50+   | 18        | 2                | 11.1 | 16         | 88.9  |                                  |
| <b>Education:</b>                           |           |                  |      |            |       | $\chi^2=0.807$ ,<br>MEP<br>0.899 |
| Diploma certificate                         | 61        | 10               | 16.4 | 51         | 83.6  |                                  |
| Technical Institute nursing                 | 49        | 8                | 16.3 | 41         | 83.7  |                                  |
| Bachelor's degree                           | 8         | 2                | 25.0 | 6          | 75.0  |                                  |
| Post graduate studies                       | 2         | 0                | 0.0  | 2          | 100.0 |                                  |
| <b>Working departments:</b>                 |           |                  |      |            |       | $\chi^2=9.236$ ,<br>MEP<br>0.027 |
| Obs /Gyn department                         | 58        | 12               | 20.7 | 46         | 79.3  |                                  |
| Emergency unit                              | 30        | 0                | 0.0  | 30         | 100.0 |                                  |
| Operation room                              | 12        | 2                | 16.7 | 10         | 83.3  |                                  |
| Outpatient clinic                           | 20        | 6                | 30.0 | 14         | 70.0  |                                  |
| <b>Years of experience:</b>                 |           |                  |      |            |       | $\chi^2=3.073$ ,<br>MEP<br>0.389 |
| < 5   | 24        | 4                | 16.7 | 20         | 83.3  |                                  |
| 5-  | 18        | 1                | 5.6  | 17         | 94.4  |                                  |
| 10-   | 23        | 6                | 26.1 | 17         | 73.9  |                                  |
| ≥ 15  | 55        | 9                | 16.4 | 46         | 83.6  |                                  |
| <b>Working hours / week</b>                 |           |                  |      |            |       | $\chi^2=0.394$ ,<br>MEP<br>0.875 |
| 36  | 37        | 6                | 16.2 | 31         | 83.8  |                                  |
| 42  | 10        | 1                | 10.0 | 9          | 90.0  |                                  |
| 48  | 73        | 13               | 17.8 | 60         | 82.2  |                                  |
| <b>Training in evidence-based practice:</b> |           |                  |      |            |       | FET,<br>P0.477                   |
| Yes   | 4         | 0                | 0.0  | 4          | 100.0 |                                  |
| No  | 116       | 20               | 17.2 | 96         | 82.8  |                                  |

Table(7) Relationship between attitude levels of studied nurses towards Evidence-Based Practice and their socio demographic & professional data

| Socio-demographic & professional data | no<br>120 | Attitude Levels |      |               |      | Significance test                |
|---------------------------------------|-----------|-----------------|------|---------------|------|----------------------------------|
|                                       |           | Negative(29)    |      | Positive (91) |      |                                  |
|                                       |           | no<br>120       | %    | no<br>120     | %    |                                  |
| <b>Age (years)</b>                    |           |                 |      |               |      | $\chi^2=1.754$ ,<br>MEP<br>0.641 |
| 20-                                   | 42        | 9               | 21.4 | 33            | 78.6 |                                  |
| 30-                                   | 37        | 8               | 21.6 | 29            | 78.4 |                                  |

|   |          |        |              |          |              |                                |
|---|----------|--------|--------------|----------|--------------|--------------------------------|
| 40-50+                                      | 23<br>18 | 8<br>4 | 34.8<br>22.2 | 15<br>14 | 65.2<br>77.8 |                                |
| <b>Education:</b>                           |          |        |              |          |              | $\chi^2=10.510$ , MEP<br>0.013 |
| Diploma certificate                         | 61       | 22     | 36.1         | 39       | 63.9         |                                |
| Technical Institute of nursing              | 49       | 7      | 14.3         | 42       | 85.7         |                                |
| Bachelor's degree                           | 8        | 0      | 0.0          | 8        | 100.0        |                                |
| Post graduate                               | 2        | 0      | 0.0          | 2        | 100.0        |                                |
| <b>Working departments:</b>                 |          |        |              |          |              | $\chi^2=4.063$ , MEP<br>0.255  |
| Obs /Gyn departement                        | 58       | 11     | 19.0         | 47       | 81.0         |                                |
| Emergency unit                              | 30       | 8      | 26.7         | 22       | 73.3         |                                |
| Operation room                              | 12       | 2      | 16.7         | 10       | 83.3         |                                |
| Outpatient clinic                           | 20       | 8      | 40.0         | 12       | 60.0         |                                |
| <b>Years of experience:</b>                 |          |        |              |          |              | $\chi^2=2.594$ , MEP<br>0.478  |
| < 5   | 24       | 3      | 12.5         | 21       | 87.5         |                                |
| 5-  | 18       | 4      | 22.2         | 14       | 77.8         |                                |
| 10-   | 23       | 6      | 26.1         | 17       | 73.9         |                                |
| ≥ 15  | 55       | 16     | 29.1         | 39       | 70.9         |                                |
| <b>Working hours / week</b>                 |          |        |              |          |              | $\chi^2=1.332$ , MEP<br>0.535  |
| 36  | 37       | 11     | 29.7         | 26       | 70.3         |                                |
| 42  | 10       | 3      | 30.0         | 7        | 70.0         |                                |
| 48  | 73       | 15     | 20.5         | 58       | 79.5         |                                |
| <b>Training in Evidence Based Practice:</b> |          |        |              |          |              | FET,<br>P0.571                 |
| - Yes                                       |          |        |              |          |              |                                |
| - No  | 4        | 0      | 0.0          | 4        | 100.0        |                                |
|   | 116      | 29     | 25.0         | 87       | 75.0         |                                |

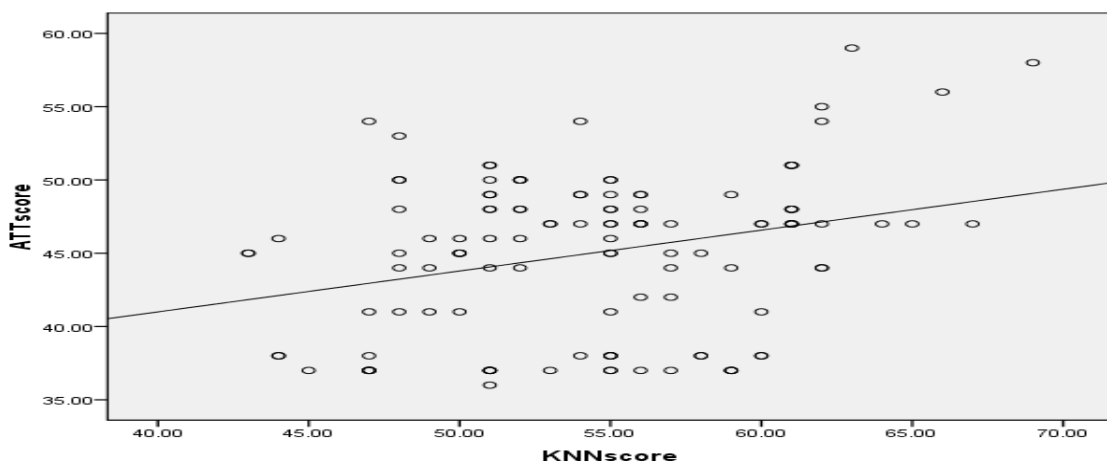


Figure (3): Correlation between total knowledge and attitude scores among studied nurses towards Evidence Based Practice

### 5. Discussion

The current study aimed to assess Evidence Based Practice's knowledge and attitude from maternity nurse's point of view. The study results answered the study questions as it assessed maternity nurses knowledge, attitude regard EBP.

Regarding the total knowledge of the studied nurses about Evidence-Based Practice. The present study revealed that majority of the studied nurses had a poor general knowledge about EBP.

These results were in an agreement with **Muosa and Khalifa (2020)** who evaluate of nurses' Evidence-Based Practice at primary health care centers in Baghdad city and noted that the majority of the nurses have poor level of knowledge e as dimensions of nurses' Evidence-Based Practice. On the contrary, **Paulose et al. (2016)** who assessed the knowledge of nurses on Evidence-Based Practice in selected setting and revealed that half of the nurses reported average knowledge regarding EBP and less than half of them had good

knowledge about EBP. This contradiction may be due to that more than half of nurses of the previous study have completed BSc nursing.

The present study illustrated that energy/protein supplementation in women at risk for low birth weight was effective ANC interventions. In the same line with **Triharini, Nursalam, and Adriani, (2018)** studied midwife support and nutritional adequacy for the prevention of anemia during pregnancy and found that the mean score of protein adequacy was 102,87% which associated with significant relation of midwife support with protein adequacy. This similarity may be due to nurses' awareness of the importance of protein for the overall health of the body and its role in building muscle.

The current study noted that the majority of nurses know that Anti-D given to Rh-negative women who have had a Rh-positive baby, during the 72 hours postpartum was ANC interventions of unknown effectiveness. On the contrary, the study **Bolton-Maggs, Davies, Poles, and Cohen, (2013)** studied errors in anti-D immunoglobulin administration and reported that the majority of errors related to anti-D Ig were attributable to nurses or midwives as they unknown about this evidence. This contradiction is based on long period of experience of the studied nurses.

The current study revealed that less than half of the studied nurse knew high iron supplementation was ineffective ANC intervention. The present study results was supported by **Mirza, Abdul-Kadir, Breymann, Fraser, and Taher (2018)** who studied the impact and management of iron deficiency anemia in women's health and reported that parenteral iron should be considered from the 2nd trimester onwards and postpartum period. This similarity may be due to the importance of iron supplementation to prevent anemia during pregnancy.

Regarding nurses' knowledge about evidence-based practice during labor. The present study noted that the majority of studied nurses knew that monitoring the woman's physical and emotional well-being throughout labor and respecting the right of women to privacy in the birthing place were useful practices during labor. The previous finding was in the same line with **Gooda, Mohamed, Mohammed, and Ahmed (2020)** who conducted a study on the effect of nursing care guideline on nurses' knowledge and practice about pregnant women and noted that most of nurses provide psychological support, encourage the mother to express her feeling, be an active

listener to the woman, be a great communicator to the woman.

While, the present study results were in disagreement with **Burrowes, Holcombe, Jara, Carter and Smith (2017)** they investigated that midwives' and patients' perspectives on disrespect and abuse during labor and delivery care in Ethiopia and found that although midwives showed good basic knowledge of confidentiality, privacy, and consent, training on the principles of responsive and respectful care, and on counseling during labor and delivery is largely absent. This contradiction may be attributed to weaknesses in the health system or from medical necessity in Ethiopia and different of cultural norms.

Moreover, the present study results found that the majority of the studied nurses knew that sterility in the cutting of the umbilical cord is very useful during labor. This was in the same line with findings of **Negussie, Hailu, and Megenta (2018)** they studied knowledge and practice of essential newborn care and associated factors among nurses and midwives and found that the majority of nurses and midwives had knowledge about using sterile scissor in cutting the cord.

The current study reported that most of the studied nurses knew that early clamping of the umbilical cord was insufficient evidence practice in labor. On the contrary, **Madhavanprabhakaran, Wittmann, Vaidyanathan, Aldughaiishi, and Shaji Thomas, (2018)** who assessed knowledge and practice of umbilical cord clamping among maternity care providers and found that, although the majority of the maternity care providers aware of the new guidelines regarding the timing of cord clamping, they still followed early cord clamping practice. This contradiction may be due to midwives in the previous study still use early cord clamping as a routine care and thought that is unusual.

The current study reported that most of the studied nurses knew that vaginal examinations and routine use of episiotomy were inappropriate EBP practices during labor. The present study results were in the same line with **Lopes, Gonçalves, Gouveia, and Armellini (2019)** they found that episiotomy should not be routinely performed and based on the current evidence that showed its practice is not necessary and can even be harmful. This similarity may be due to many complications associated with episiotomy such as pain, dyspareunia, unsatisfactory healing, asymmetry, and recto-vaginal fistula.

Regarding nurses' knowledge about Evidence-Based Practice during postpartum, the current study showed that majority of the studied nurses knew that early skin-to-skin contact of mother and baby within 1 hour of birth and daily assess of the condition of mother & baby in the first week postpartum were practices which are useful. The current study results were supported by several studies as (Al-Morbaty, Ashmauey, & Medley, 2016; Safari, Saeed, Hasan, & Al-Ghamdi, 2017; Moore, Bergman, Anderson, & Moghaddam-Banaem, 2018).

The current study revealed that most of the studied nurses know that routine administration of vitamin K to all healthy newborns is practice which insufficient evidence. In the same line, Jullien, (2021) supported the evidence that all newborns should received vitamin K prophylaxis, as it has been proven that oral and intramuscular prophylactic vitamin K given after birth.

Concerning attitude of studied nurses regarding Evidence-Based Practice. The current study revealed that more than half of the studied nurses agreed that research findings were useful in the provision of day-to-day nursing practice. In the same line with Dagne, and Beshah (2021) who studied implementation of EBP and the experience of nurses and midwives and found that high mean score given to research articles from trusted sources were relevant to their daily practice. This was in agreement with Dahal (2019) who studied knowledge and attitude toward EBP among nurses and found that the highest mean degree of nurse's attitude was they like using best research evidences in their clinical practice.

The present study noted that about half of nurses agree that EBP is a waste of time. In the same line with Azmoude et al. (2018) who investigated the midwives' attitude and barriers of EBP in maternity care. They reported that a lower mean attitude score in comparison to the other items of attitude were given to "EBP is a waste of time" and "EBP is too tedious and impractical". This was in disagreement with Dagne and Beshah (2021) reported that 'Clinical decision-making practice based on evidence is time-saving' had a poor, attitude.

The present study revealed that about half of the studied nurses strongly agreed that EBP encourages patient-centered care, the application of EBP improves patient's healthcare outcomes. These results were in consistent with Unadkat, Mbuba, Ngugi, and Kanya (2020) who investigated the knowledge, attitudes, practices and barriers in use of evidence-based and found that the

majority of the participants agreed or strongly agreed that EBP improves patient outcomes. As well, Azmoude et al. (2018) who reported that nurses' attitudes toward "the application of EBP improves patient health care outcomes," and "EBP encourages patient-centered care" had the highest mean scores. This can be explained as the nurses believe that the application of any new term or a new system previously implemented globally will raise the efficiency of the nursing process and thus raise the quality of care for patients.

The current study showed that more than three quarters of the studied nurses had a positive attitude towards Evidence-Based Practice. The present study results were supported by Bashar, (2019); Wilson, (2016) who investigated perceptions and attitudes towards Evidence-Based Practice among nurses and reported that most of nurses had positive attitude towards Evidence-Based Practice.

While the current study findings were contradicted with, Alkhatib, Ibrahim, Ameenuddin, and Ibrahim (2021) who studied nurses' knowledge, perception, and attitude towards evidence-based practice at king Abdullah medical city-Saudi Arabia and noted that the majority of the studied nurses had negative attitude regarding evidence-based practice. This discrepancy may be due to the lack of years of experience in nurses in the previous study, which did not exceed five years.

The present study results showed that average score of nurses' knowledge about Evidence-Based Practice was significantly differing by education level. This results were in adherence with Kaseka and Mbakaya (2021) who assessed the knowledge, attitude and use of Evidence-Based Practice among Registered Nurse-Midwives and noted that there was a statistically significant differences in the knowledge levels based on educational qualification of nurse-midwives. On contrary, Al-Busaidi et al. (2019) revealed that no correlation was found between mean scores for EBP knowledge and education level (diploma vs. higher academic degrees).

## 6. Conclusion

**Based on the findings of the present study, it can be concluded that:**

Majority of the studied nurses had a poor knowledge about general EBP. Two thirds of them had fair knowledge regard EBP in Antenatal & labor. Also majority of them had fair knowledge regard EBP in postpartum. Moreover, more than three quarters of studied nurses had positive

attitude towards EBP. There was mild, positive, significant correlation between total knowledge and attitude scores among studied nurses towards EBP.

### 7. Recommendations

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

- Training program should be utilized for maternity nurses to improve the knowledge regarding EBP.
- In service training programs for nurses on searching strategies, research methodologies for skill acquisition.

### Further studies are recommended to

- Effect of introduce new system, such as computer based decision support system as away forwards for change to EBP.
- Identify barriers that hinder nurses to be aware of EBP in maternity care.

### 8. Acknowledgement

The researchers would like to thank all participants for their cooperation during the study.

### 9. CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest statement.

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