**CHAPTER**

**EVIDENCE BASED PRACTICE**

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**Outline of the chapter:**

* Introduction
* Definition of EBP
* Process of EBP
* Sources of EBP
* Components of Evidence Based Practice
* Steps of Evidence –Based Practice.
* Models and theories for EBP
* Application of EBP in nursing.

**Introduction:**

When there is a lack of research reported in literature to guide clinical practice, it becomes necessary to design and conduct studies to generate evidence.

There are many areas in the clinical practice that do not have an established evidence base (e.g., care for dying children, primary care intervention to improve mental health outcomes in high-risk individuals) as a result, there is an urgent need to conduct studies so that healthcare providers can base their treatment decisions on sound evidence from studies

Evidence –based practice is an approach that enables clinician to provide the highest quality of care in meeting the multifaceted needs of their patients and families.

Evidence based practice represents both an ideology and method.

During 1980s the term “EVIDENCE-BASED MEDICINE” developed to describe the approach that used scientific evidence to determine the best practice. Later, the term shifted to become “evidence –based practice” as clinician other than physicians recognized the importance of scientific evidence in clinical decision-making.

**Definition**

**Evidence:**

It is something that furnishes proof or testimony or something legally submitted to ascertain in the truth of matter.

**Evidence based practice:**

It is systemic inter connecting of scientifically generated evidence with tacit knowledge of the expert practitioner to achieve a change in particular practice for the benefits of well-defined client/patient group.

**Evidence based nursing:**

It is a process by which nurse makes clinical decisions using the best available research evidence, their clinical expertise and patient preferences.

**Evidence based nursing practice:**

An integration of the best evidence available, nursing expertise and values and preference of individuals, families and community who are served.

**Research Utilization:**

* The term research application and evidence-based practice are sometimes used synonymously.
* It is the process of transferring research knowledge into practice, thus facilitating an innovative change in practice protocols. Research utilization is the use of findings from a disciplined study or a set of studies in a practical application that is unrelated to the original research.
* Research utilization can be broadly defined as the research finding in any and all aspects of one’s work as a registered nurse. While there are specific kinds of research utilization, such as instrumental, conceptual, and persuasive, at its simplest it is the use of research.

**Process of EBP:**

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| --- |
| **Best research evidence** **Clinical experience** **Patient values and preferences** |

**Aims of EBP:**

* To provide the high quality and most cost-efficient nursing care possible.
* To advance quality of care provided by health worker
* To increase satisfaction among patients.
* To focus on nursing practice away from habits and tradition to evidence and research.
* It results in better patient outcomes.
* It keeps practice current and relevant.
* It increases confidence is decision making.

**Objectives and purposes of EBP:**

* Evidence based practice seeks to replace practice as usual with practice guided by rigorous outcomes-oriented research ideally randomized controlled trials.
* It is also seeking to make practice a less subjective enterprise and to rise it to a higher level of accountability.
* Reduces the variations in nursing care and assist with efficient and effective decision making.
* Providing practice to the nurse evidence-based data to deliver effective care.

**Need of EBP**

**Goal Of Evidence Based Practice:**

* Provide practicing nurse the evidence-based data to deliver effective care.
* Resolve problems in clinical setting.
* Achieve excellent in care delivery.
* Reduces the variations in nursing care and assist with efficient and effective decision making.

**Sources of evidence**

1. **FILTERED RESOURSES: -** Clinical experts and subject specialist pose a question and then synthesis evidence to state conclusion based on available research.
2. **UNFILTERED RESOURSES: -** It provides most recent information. E.g., MEDLINE, CINHAL etc provides primary and secondary literature for Medline.
3. **CLINICAL EXPERIENCES: -** Knowledge through professional practice and life experiences makes up the second part in the evidence based, person centred care.

**Components of Evidence Based Practice:**

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**Steps Of Evidence –Based Practice:**

* **Steps: 1**

Asking the burning question in the format that will yield the most relevant and best evidence.

* **Steps:2**

Collecting the most relevant and best evidence to answer the clinical question including searching for systemic review/meta-analysis or clinical practice guideline.

* **Steps:3**

Critically appraising the evidence that has been collected for its validity, relevance, and applicability.

* **Steps:4**

Integrating the evidence with one’s clinical expertise, assessment of patient’s condition and available health care resources along with the patient’s preferences and values to implement a clinical decision.

* **Steps :5**

Evaluating the changes resulting from implementing the evidence in practice.

**EBP is the art of integrating the best evidence from epidemiological research with clinical. By means of the following steps:**

**Asking a searchable, Answerable questions**

* The first steps to achieve this goal is to formulate the clinical issues into a searchable answerable question. There are two types of questions-background questions and foreground questions.

**Background Questions:**

* Background questions are those that need to be answering as a foundation of asking the searchable, answerable foreground questions.
* Sackett and colleagues (2000) describe background questions as that ask for general information about clinical issues. It has two components: the starting place of questions and outcomes of questions

**Foreground Questions:**

* Focus questions are those that can be replied from scientific evidence about diagnosing, treating and assisting patients with understanding their prognosis. These questions from on specific knowledge e.g., which is more effective drug it reduces fever in children: acetaminophen or ibuprofen?
* These both questions are solved by **PICO:**
* **P:** The patient’s population or disease of interest
* **I:** Interventions or rang of intervention of interest
* **C:** What you want to compare the intervention against
* **O:** Outcomes of interest.

**Example:** Patient 60-year-old does the use of Covid -19 vaccine reduce the future risk of severe Covid condition compared with patient who have not received the vaccine.

* **P**: Patient 60-year-old
* **I:** Dose use of Covid-19 Vaccine
* **C**: Compared with patient who have not received Covid-19 Vaccine
* **O**: Reduce the risk of severe Covid-19 Infection.

**Assembling and evaluating the Evidence:**

* Once a clinical practice question has been selected, the next step is to search and assemble research evidence on the topic. In doing a literature review as a background for new study, the central goal is to discover where the gaps are and how best to advance knowledge.

**Critically appraising the article:**

* In determining the implementation potential of an innovation in a particular setting, several issues should be considered, particularly the transferability of the innovation, the feasibility of implementing it and its cost benefit ratio. If the implementation assessment suggests that there might be problems in testing the innovation in that particular practice setting, then the team can either identify a new problem and begin the process a new or consider adopting the plan to improve the implementation potential.

**Integrating the evidence with one’s clinical expertise:**

* If the implementation criteria are met, the team can design and plot the innovation. Based on the IOWA, model the following activities can be involved:
* Developing an evaluation plan (identifying outcomes to be achieved, determining how many clients to involve in the pilot, deciding when and how often to take measurements).
* Collecting baseline data relating to those outcomes to develop a counterfactual against which outcomes would be assessed.
* Developing a written EBP guideline based on the synthesis of the evidence, preferably a guideline that is clear and user friendly and that uses such devices as flow charts and decision trees.
* Training the relevant staff in the use of the new guideline and if necessary “marketing” the innovation to user so that it is given a fair test.
* Trying the guideline out on one or more units or with the sample of client.

**Evaluating the change:**

* The last step in EBP is evaluation of the pilot project in terms of both process (in terms of client outcomes and cost-effectiveness). A variety of research designs can be use in the evaluation, of course, with the most rigorous being an experimental design. In most cases however, a less formal evaluation will be more practical, comparing collected outcomes data or hospital records before and after the innovation and gathering information about patient and staff satisfaction.
* Qualitative and mixed method research designs can also contribute to evaluating an innovation.

**Models and theories for EBP:**

* Advancing research and clinical practice through close collaboration model
* Center for advance nursing practice model
* Diffusion of innovation theory
* Evidenced based multidisciplinary practice model
* Framework for adapting on evidenced based innovations
* IOWA model
* Johns Hopkins nursing EBP model
* Model for change to EBP
* Ottawa model of research use
* Promoting action on research implementation health service model
* Settler model of research utilization.

**The stelter model**

Thestelter model was designed with the assumption that research utilization could be undertaken not only by organizations but by individual, clinicians and managers. It was a model designed to promote and facilitate critical thinking about the application of research findings in practice. The current model presented graphically involves five sequential phases:

**Preparation:** In this phase, the nurse defines the underlying purpose and outcomes of the project, search, sort and select sources of research evidence. She considers external factors that can influences potential application and internal factors that can objectivity and affirm the priority of perceived problem.

**Validation:** this phase involves a utilization of focused critique of each source of evidence, focusing in particular on whether it is sufficiently sound for potential application in practice.

**Comparative evaluation and decision-making:** this phase involve a synthesis of findings and application of criteria, that taken together, are used to determine the desirability and feasibility of applying findings from validated sources to nursing practices. The end of the comparative evaluation is to make a decision about using the study findings.

The current vision of IOWA model acknowledge that formal RU/EB project begins with trigger an impetus to explore possible changes to practice. The start point can be either knowledge-focused trigger that emerges from awareness of innovative research findings.

**Process of Using Research in Nursing Practices:**

* EBP in individual nursing practice.
* EBP in an organizational context.
* The model outline activities with three clinical decision points.
* Deciding whether the problem is a sufficient priority for organization exploring possible changes, if yes, a team is formed to proceed with project: if no, a new trigger would be sought.
* Deciding whether there is sufficient research base; if yes, the innovation is piloted in the practice setting. If no, the team would either search for other source of evidence or conduct its own research.
* Deciding whether the change is appropriate for adaptation in practice, if yes, a change would be instituted and monitored. If no, the team would continue to evaluate quality of care and search for new knowledge.

To translate research findings into practice, several steps were necessary:

1. Expected outcomes of the change a baseline or current status were documented.
2. Nursing / multidisciplinary interventions were designed.
3. Practice change were implemented on a pilot study.
4. Process and outcomes were evaluated.
5. The interventions were modified as necessary.

**John Hopkins model**

* Used as a frame work to guide the synthesis and translation of evidence into practice.
* There are three phases to JHM EBP model.
1. The identification of the answerable question.
2. A systematic review and synthesis of both research and non-research.
* Translation includes implementation of the practice change as a pilot study, measurement of outcomes and dissemination of findings.

**Barriers to using research in nursing:**

**Research-related barriers: -**

* Lack of time.
* Lack of knowledge.
* Complexity of research.
* Study is not valid.

**Tips: -**

* Collaborate with clinicians.
* DO high quality research
* Replicate
* Communicate clearly
* Disseminate aggressively and broadly.

**Nurse-related barriers: -**

* Lack of knowledge about research.
* Lack of value in research practice.
* Difficulty in bringing change.
* Nurse attitude towards research and their motivation to engage in EBP.

**Tips: -**

* Read widely and critically.
* Attend professional conference.
* Learn to expect evidence that procedure is effective.
* Become involved in journal club.
* Pursue and participate in EBP project.

**Organizational barrier: -**

* Lack of administrative support.
* Failed to motivate or reward to the staff.

**Tips: -**

* Foster a climate of intellectual curiosity
* Offer emotional or moral support
* Offer financial and research support
* Reward offers for using research.
* Seek opportunities for institution.

**Nursing profession: -**

* There is shortage of appropriate role models.
* The nurse feel that he/she didn’t have enough authority to change patient care procedure.

**Tips: -**

* Encouraging research and research use.
* Incorporate research findings in curriculum
* Place demands on researchers.

**Benefits**

* Information explosion: EBP provides a systematic, structured framework which can be applied to literature searching to ensure information retrieved is focused and relevant to practice.
* Efficiency: Evidence-based practice increases the efficiency of nurses. Making decisions based on knowledge that is backed by research.
* Better patient outcome: Nurses regularly make decision on what care to provide for their patients. These decisions can impact the patients’ health negatively or positively. The patients will likely experience a better outcome when the care is based on research.
* It keeps nursing practice current: For nurses to apply evidence-based practice in the care they provide, they have to stay informed on any new discoveries that have been made.
* Decision-making: Using evidence-based practice to provide care to patients increase the nurse’s confidence.
* Economic concerns: EBP is appealing because it can help determine high-quality cost-effective interventions that actually work.
* Variations in practice: Variations in practice are becoming more evident and evidence of harm and lack of benefits is increasing.
* Quality of interventions: EBP promotes high quality and cost-effective intervention and treatment.
* Incorrect advice: Individualized interventions Evidence-based practice encourage, tailored, and individualized treatment of clients and emphasized care and outcomes.

**5 A’s of evidence-based practice process**

1. **Ask**
2. **Acquire**
3. **Appraise**
4. **Apply**
5. **Analyze**

**Steps for Evidence - Based Behavioural Practice:**

The method of evidence - based clinical practice (EBCP) begins with a thoughtful assessment by incorporating all the pertinent data. A thorough assessment of the patient and the problem must be done to determine the pertinent issues, which may include a differential diagnosis, treatment decisions, or prognosis.

1. **ASK:** Clinical Question Development Questions can be formulated from the clinical evaluation previously made. Ask a clear, answerable question to be pursued and other critical questions about the care of individuals, communities, or populations.
2. **ACQUIRE:** Looking for the Evidence Efficiently acquire the best addressable evidence concerning the question from an appropriate source. Potential sources include original research studies, Systematic reviews, evidence - based journal abstracts, text books and computerized decision support systems.
3. **APPRAISE:** Critical Appraisal of the Evidence With a potential source in hand, critically appraise the evidence to further examine its worth and relevance to the problem at hand.
4. **APPLY:** Applying Evidence to the Patient Return to the individual patient and apply the evidence by engaging in collaborative health decision - making with the affected individual. Appropriate decision - making integrates the context, values and preferences of the care recipient, as well as available resources, including professional expertise.
5. **ANALYZE:** Analyze the outcome, propagate results Carefully assess the outcome, make necessary follow - ups and propagate the results.

A systematic approach is essential to achieve a manage able integration of best evidence into clinical care, thus visualizing the evidence - based process as a cycle is very helpful.

**Barriers to Implementation**

Several barriers to implementing evidence - based practice have been identified and are associated with demanding patient loads, in addition to a high volume of journal articles related to various areas of clinical practice. These barriers include lack of knowledge regarding evidence - based practice strategies; uncertainty or scepticism that evidence - based practice will result in better patient outcomes than traditional care; lack of time and resources to search for and appraise evidence; organizational constraints, such as lack of administrative support; and peer pressure to continue practices because " they have always been done this way. "

**Barriers to EBP in Nurses**

* The nurse does not have enough time to read research, or implement new ideas.
* Overwhelming patient loads
* The nurse is unaware of the research, or does not perceive it as informing practice
* The nurse does not have authority to change practice
* The amount of research is overwhelming
* Inadequate resources and lack of administrative support
* Lack of EBP mentors to work with providers

**Other Deficits among Nurses**

1. Inadequate EBP knowledge and skills
2. EBP only recently included in nursing education
3. Never leamed how to search an electronic database
4. Not able to differentiate between research reports and other types of literature
5. Lack the ability to critically evaluate research reports or assess the quality
6. Still lack comfort, skills, time, access to appropriate materials to engage in EBP
7. Lack of value for research in practice
8. Lack of understanding of electronic databases
9. Difficulty accessing materials
10. Lack of computer skills
11. Difficulty understanding articles
12. Lack of: access to computer; library access; search skills; research knowledge; critiquing skills

**Conclusion:**

To sum up, hoping that the COVID-19 pandemic will bring on a redefinition to the value of essential HCWs with recognition of their contribution and proper education, protection, and compensation. Make sure that our frontline warriors are supported, protected, motivated and well equipped to deliver safe and sound health care always not only during pandemic like COVID-19 which will enable them to deliver quality care patients. Moreover, protective organizational approaches could be more effective but less stigmatizing, and generating evidence on the efficacy of interventions or strategies are required to maintain resilience. More research, especially from developing coteries like India, is required to design interventions suitable for the need for HCPs.

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