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Review article

EBP in action: An experience on nursing interventions to promote sleep-application of Iowa Model of evidence-based practice to promote quality care

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Abstract

Evidence based practice (EBP) is the conscientious use of current best evidence in making decisions about patient care. Against a background of financial constraints, risk reduction, increased managerialism research evidence, and more specifically research about effectiveness, have assumed pre-eminence. However, the practice of effective nursing, which is mediated through the contact and relationship between individual practitioner and patient, can only be achieved by using several sources of evidence. The Iowa Model of EBP was developed by Marita G. Titler which answers many clinically problems in a team effort. The author identified that sleep problems in COPD patients are not addressed properly as there is no clear guidlines for nursing interventions are available. Hence with the support of administration a team was setup for the EBP for nursing interventions to promote sleep in COPD patients By Iowa model. The post implementation of EBP practice showed much better sleep by the feedback received from the Patients, patient relatives, Nurses and medicos

Keywords: Evidence based practice (EBP), COPD.

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1. Introduction

Evidence based practice (EBP) is the conscientious use of current best evidence in making decisions about patient care (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000).[1]Evidence-based practice (EBP) is spreading in popularity in many health care disciplines. One of its main features is the reliance on the partnership among hard scientific evidence, clinical expertise, and individual patient needs and choices [2].

Against a background of financial constraints, risk reduction, increased managerialism research evidence, and more specifically research about effectiveness, have assumed pre-eminence. However, the practice of effective nursing, which is mediated through the contact and relationship between individual practitioner and patient, can only be achieved by using several sources of evidence. The research, clinical experience, patient experience and information from the local context. Fundamentally, drawing on these four sources of evidence will require the bringing together of two approaches to

care: the external, scientific and the internal, intuitive [3].

Evidence-based medicine appears to motivate the search for answers to numerous questions related to costs and quality of health care as well as access to care. Scientific, relevant evidence is essential in clinical care, policy-making, dispute resolution, and law. Consequently, evidence based practice brings together pertinent, trustworthy information by systematically acquiring, analyzing, and transferring research findings into clinical, management, and policy arenas [4].

Evidence based nursing can date back to the 1800s if one considers Nightingale's first steps forward. Her "Notes on Nursing" was first published in 1859 in England and in 1860 in America (Evidence-Based Nursing, 2012). At the time, Nightingale was spreading the word of the importance of sanitation in nursing care; though not entirely true, and lacking scientific fact about germs and bacteria, her observations indicated that patients healed faster if the materials used to treat them were clean and if physicians washed their hands. As she worked to guide the medical practices of her day, her idea remained that "What you want are facts, not opinions...The most important practical lesson that can be given to nurses is to teach them what to observe-how to observe-what symptoms indicate improvement-which are of none-which are the evidence of neglect-and what kind of neglect." (Evidence-Based Nursing, 2012) [5].

Nurses and midwives form the bulk of the clinical health workforce and play a central role in all health service delivery. There is potential to improve health care quality if nurses routinely use the best available evidence in their clinical practice. Since many of the factors perceived by nurses as barriers to the implementation of evidence-based practice (EBP) lie at the organisational level, it is of interest to devise and test an evidence based practice form for implementation in clinical patient care [6].

The Iowa Model of EBP was developed by Marita G. Titler, PhD, RN, FAAN, Director Nursing Research, Quality and Outcomes

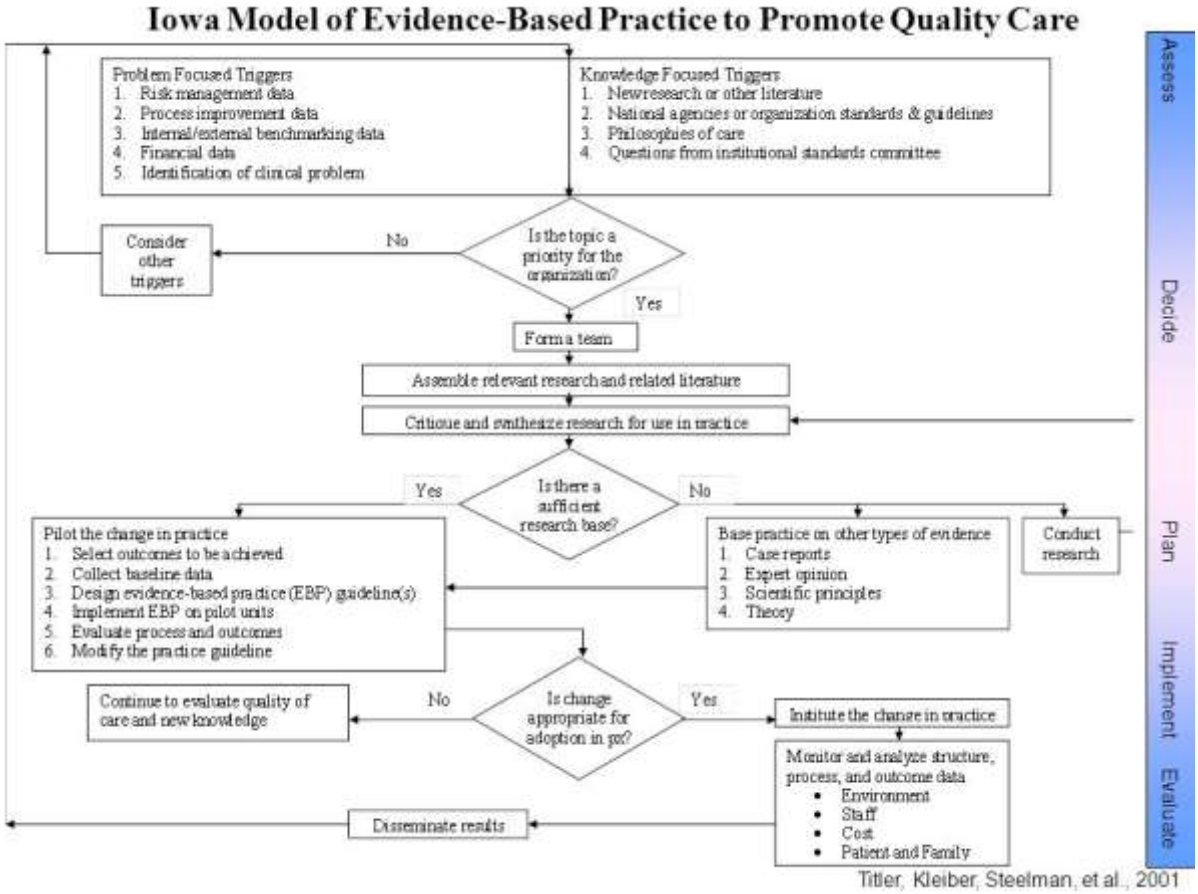

Figure 1.1 Iowa model of evidence based practice to promote quality care

Management, Department of Nursing Services and Patient Care, University of Iowa Hospitals and Clinics, Iowa City, Iowa, and her colleagues to describe knowledge transformation and to guide implementation of research into clinical practice [7].

The Iowa model highlights the importance of considering the entire healthcare system from the provider, to the patient, to the infrastructure, using research within these contexts to guide practice decisions. A number of steps have been identified in the Iowa model to facilitate NP engagement in problem identification and solution development as it relates to incorporating evidence findings into practice.

In clinical evaluation of nursing services once a patient complained about insomnia in health care facility. The need for standardization of the sleep promoting care was identified and the decision was made to make it a evidence based practice based on Iowa model.

Steps involved in EBP development

I. Basics

The organization agreed that this knowledge trigger indicates a need for change in the healthcare delivery system. For this change to happen, the literature needs to have evaluated and reviewed, as well as the topic needs to be considered in the context of the population of patients served by the organization.

One of the most challenging issues in using EBP in the clinical setting is learning how to adequately frame a clinical question so that an appropriate literature review can be performed. One method used is called the "PICO" model:

P= Who is the Patient Population=> COPD patients with sleep disturbance
I= What is the potential Intervention or area of Interest? =>Nursing Interventions
C= Is there a Comparison intervention or Control group? =>No
O= What is the desired Outcome? => The patients sleep continuously minimum of six continuous hours

II. The Priority of the topic

The topic has priority as the number of copd patients are increasing day by day and the hospital has large number of COPD in and out patients.

III. The team

The core team for developing EBP was Identified under the chairmanship of Nursing college Principal Mrs Lubna Rohit. The team comprised of 5 postgraduate nurses from college of nursing and 5 postgraduate nurses from clinical area. Out of these 5 one was holding a supervisory post .

IV. Review of literature

The core team collected and reviewed the research articles, text book literature, unpublished articles, expert opinion from pulmonary and critical care specialist nurses, various library materials for a period of one month from December 2013 to 1st January 2014.

V. Synthesizing

The data collected from various sources concluded that

a) There were no direct study correlating nursing interventions with sleep quality in copd patients before

b) The research studies were mostly done in abroad; so as the complete mere following may not be feasible

c) More researches are needed for accurate management for the problem

d) It has been also understood that the interventions are individualized and tailor based interventions may not be feasible for all yet the common interventions shall be applied.

VI. The various nursing interventions identified for the sleep management of COPD patients are

1. Determine the client's sleep and activity pattern
2. Encourage patient to establish a bedtime routine to facilitate transition from wakefulness to sleep.
3. Encourage him to eliminate stressful situations before bedtime
4. Monitor bedtime food and beverage intake for items that facilitate or interfere with sleep.
5. Create an atmosphere to facilitate trust
6. Encourage verbalization of feelings, perceptions, and fears
7. Determine the client's decision-making ability.
8. Discourage long periods of sleep during the day unless signs and symptoms of sleep deprivation exist or daytime sleep is usual for client
9. Perform actions to relieve discomfort if present (e.g. reposition client; administer prescribed analgesics, antiemetics, or muscle relaxants
10. Encourage participation in relaxing diversional activities
11. Discourage intake of foods and fluids high in caffeine (e.g. chocolate, coffee, tea, colas)
12. Offer client an evening snack that includes milk or cheese unless contraindicated (the L-tryptophan in milk and cheese helps induce and maintain sleep)
13. Satisfy basic needs such as comfort and warmth before sleep
14. Encourage client to urinate just before bedtime
15. Reduce environmental distractions (e.g. close door to client's room; use night light rather than overhead light whenever possible; lower volume of paging system; keep staff conversations at a low level and away from client's room; close curtains between clients in a semi-private room or ward; keep beepers and alarms on low volume; provide client with "white noise" such as a fan, soft music, or tape-recorded sounds of the ocean or rain; have sleep mask and earplugs available for client if needed)
16. Ensure good room ventilation
17. Encourage client to avoid drinking alcohol in the evening (alcohol interferes with REM sleep)
18. If possible, administer medications that can interfere with sleep (e.g. steroids, diuretics) early in the day rather than late afternoon or evening
19. Administer prescribed sedative-hypnotics if indicated
20. Perform actions to reduce interruptions during sleep (80 - 100 minutes of uninterrupted sleep is usually needed to complete one sleep cycle)
21. Restrict visitors
22. Group care (e.g. medications, treatments, physical care, assessments) whenever possible.
23. Provide measures to take before bedtime to assist with sleep (e.g., quiet time to allow the mind to slow down, carbohydrates such as crackers, or a back massage). Simple measures can increase quality of sleep. Carbohydrates cause release of the neurotransmitter serotonin, which helps induce and maintain sleep (Somer, 1999). Research has shown back massage to effectively promote sleep (Richards, 1994).
24. Keep environment quiet (e.g., avoid use of intercoms, lower volume on radio and television, keep beepers on nonaudio mode, anticipate alarms on IV pumps, talk quietly on unit). Excessive noise causes sleep deprivation that can result in ICU psychosis (Barr, 1993). Health volunteers exposed to recorded critical care noise levels experienced poor sleep (Topf, 1992). More than half of the noises in ICUs were caused by human behavior such as talking and TV watching (Kahn, Cook, 1998).
25. For hospitalized stable clients, consider instituting the following sleep protocol to foster sleep:
    - Night shift: Give client the opportunity for uninterruptedsleep from 1 AM to 5 AM. Keep environmental noise to a minimum.

- Evening shift: Limit napping between 4 PM and 9 PM. At 10 PM turn lights off, provide sleep medication according to individual assessment, and keep noise and conversation on the unit to a minimum.
- Day shift: Encourage short naps before 11 AM. Enforce a physical activity regimen as appropriate. Schedule newly ordered medications to avoid waking client between 1 AM and 5 AM.

26. Encourage social activities. Help elderly get outside for increased light exposure and to enjoy nature. Exposure to light and social interactions influences the circadian rhythms that control sleep (Elmore, Betrus, Burr, 1994; Sateia et al, 2000).
27. Suggest light reading or TV viewing that does not excite as an evening activity. Soothing activities decrease stimulation of the reticular activating system and helpsleep come naturally.
28. Increase daytime physical activity. Encourage walking as client is able.
29. Reduce daytime napping in the late afternoon; limit naps to short intervals as early in the day as possible. The majority of elderly nap during the day (Evans, Rogers, 1994). Avoiding naps in the late afternoon makes it easier to fall asleep at night.
30. Help client recognize that there are changes in length of sleep. Client may not be able to sleep for 8 hours as when younger, and more frequent awakening is part of the aging process (Floyd et al, 2000).
31. If client continues to have insomnia despite developing good sleep hygiene habits, refer to a sleep clinic for further evaluation (Pagel, Zafralotfi, Zammit, 1997).
32. Provide support to the family of client with chronic sleep pattern disturbance. Ongoing sleep pattern disturbances can disrupt family patterns and cause sleep deprivation in the client or family members, which creates increased stress on the family.
33. Encourage client to avoid coffee and other caffeinated foods and liquids and also to avoid eating large high-protein or high-fat meals close to bedtime. Caffeine intake increases the time it takes to fall asleep and increases awake time during the night (Evans, Rogers, 1994). A full stomach interferes with sleep.
34. advise the client that research on use of melatonin is still equivocal. While it may help the client to fall asleep faster, it does not improve the quality or length of time in the sleep interval, and long-term results are unknown (Hughes, Sack, Lewy, 1998; Defrance, Quera-Salva, 1998; Walsh et al, 1999).
35. Ask client to keep a sleep diary for several weeks.Often the client can find the cause of the sleep deprivation when the pattern of sleeping is examined (Pagel, Zafralotfi, Zammit, 1998).
36. Teach relaxation techniques, pain relief measures, or the use of imagery before sleep.
37. Teach client need for increased exercise. Encourage to take a daily walk 5 to 6 hours before retiring. Moderate activity such as walking can increase the quality of sleep (King et al, 1997).
38. Teach the following guidelines for good sleep hygiene to improve sleep habits:
    - Go to bed only when sleepy.
    - When awake in the middle of the night, go to another room, do quiet activities, and go back to bed only when sleepy.
    - Use the bed only for sleeping—not for reading or snoozing in front of the television.
    - Avoid afternoon and evening naps.
    - Get up at the same time every morning.
    - Recognize that not everyone needs 8 hours of sleep.
    - Move the alarm clock away from the bed if it is a source of distraction.

- Do not associate lulls in performance with sleeplessness; sleeplessness should not be blamed for everything that goes wrong during the day.

VII. The development of protocol and implementation

The protocol was developed based on the identified nursing interventions and implemented in hospital with the help of nurse managers of the wards where the COPD patients treated.

VIII. Evaluation

The feedback was sought from patients, patients relatives, nursing staffs, medical personals and other paramedical staffs and it has shown considerable improvement in patients quality of sleep.

Lessons learned

Iowa model can be of great help for the development of EBP to improve quality of care in clinical area. Although It requires team effort and consistency from various levels of administers, nurses and patients. Making an EBP is laborious process but very productive if done rigorously with utmost dedication. Commitment of team members vital for the development of protocol and its successful results. Another big area is administorial support is vital for the development of protocol by providing material for the collection of review and arrangement of meetings. Commitment to follow the laid protocols from the nurse managers is another vital part. Dedicated scientific nursing care is the central to the entire process to achieve the results. The biggest lesson learned is the fact that the Iowa model can be used in various other issues central to nursing to come up with efficient quality nursing care .

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