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NURSES' LEVEL OF KNOWLEDGE, ATTITUDES, AND PRACTICES IN RELATION TO IMPLEMENTATION OF EVIDENCE BASED PRACTICE AND THEIR DISASTER PREPAREDNESS

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Abstract

Background: Globally, healthcare systems encounter significant challenges during disasters, necessitating healthcare professionals to react with readiness and efficiency. Among these professionals, nurses assume a crucial role in disaster preparedness and response, often positioned at the forefront of delivering healthcare amid such events.

Methods: The study employed a quantitative descriptive design by the respondents who were registered nurses who had worked under the Nursing Services Department in different units such as ER, ICU, OR, Inpatients, OPD, and nursing administration at a tertiary hospital, utilizing a self-formulated questionnaire.

Result: The evidence-based practice helps nurses in their disaster preparedness in the workplace.

Conclusion: Hospitals can cultivate a culture of evidence-based practice among nurses in the area of disaster preparation by putting into action this structure for an innovative program.

Keywords: Evidence-based practice, Disaster Preparedness, Knowledge, Attitudes.

Introduction

Evidence-based practice, also known as EBP, is thought to be and is now generally recognized as being, one of the essential components and essential key to improving both the quality of healthcare and the outcomes for patients. Although there seem to be quite differences in the purposes of nursing research (researching to generate new knowledge) and evidence-based nursing practice (utilizing best evidence as the basis of nursing practice), an increasing number of research studies have been conducted so to translate evidence effectively into practice. It is without question the case that evidence from research, that represents successful innovation, needs to be accompanied by successful implementation and an enabling context to accomplish significant results (Chien, 2019).

In one of the speeches of Professor Rita Pickler (2018), she stated that nursing science needs to encompass all manner of research, from discovery to translation, from bench to bedside, and from mechanistic to holistic. According to Mthiyane and Habedi (2018), evidence-based practice (EBP) is defined as the integration of the finest evidence from well-designed studies with the expertise of clinicians, including internal evidence from patient assessments and practice data, as well as patients' preferences and values. It is regarded as one of the most important professional competencies for nurses, serves as the basis for the delivery of high-quality nursing care (Alamri, 2021), and is useful in a variety of circumstances and settings (Chau et al., 2021).

In fact, healthcare practitioners were adamant in their conviction that EBP is an indispensable component of the nursing profession, and they acknowledged the significance of incorporating it into every facet of their practice (Immonen et al., 2022). The same findings in the study of Clarke et al. (2021) which showed that nurse practitioners valued the utilization of EBP and considered it to be important in standardizing nursing practice towards patient care. EBP is beneficial and elemental in improving clinicians' decision-making and patient outcomes (Chiwaula & Jere, 2022; Degu AB et al., 2022; Alqahtani et al., 2022; Cardoso et al., 2021; Youssef et al., 2018).

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In addition, evidence-based practice assists in the development of clinical judgment, promotes increased responsibility among healthcare professionals, and ensures that professionals' knowledge is kept current (Al-Maskari & Patterson, 2018). However, despite the significance of EBP being widely acknowledged, it is not always put into practice because of the wide variety of practices that exist and the difficulties that nurses face when attempting to integrate evidence-based information into their work (Abu-Baker et al., 2021; Dagne & Beshah, 2021; Cleary-Holdforth et al., 2021; Chau et al., 2021; Atakro et al., 2020; Al-Busaidi et al., 2019).

Methodology

Research Design

To assess and evaluate the nurses' level of knowledge, attitudes, and practices regarding the implementation of evidence-based practice in disaster preparedness, the study employed the descriptive method of research by deliberately measuring and analyzing quantitatively the subject variables.

Respondents of the Study

The respondents of the study were registered nurses who had worked under the Nursing Services Department in different units such as ER, ICU, OR, Inpatients, OPD, and nursing administration at a tertiary hospital. They had at least 1 year of experience in the nursing profession and had voluntarily answered the survey with a set of standardized questions. The hospital had been a 500-bed capacity facility that provided diagnostic and therapeutic services for medical, surgical, trauma, and intensive care cases for adults and pediatrics (MERS CoV, CoViD-19, and trauma cases only).

Instruments of the Study

The survey's self-structured questionnaires underwent to content validation and have been validated by an expert. The result showed that the modified-structured questionnaire is acceptable and will be permitted to be utilized as a research tool. The research tool also goes through a reliability test using an internal consistency method. Internal consistency assesses the correlation between multiple items in a test that are intended to measure the same construct (Middleton, 2022).

Results

The five-point interpretation is shown in the legend below using numbers that represent the choices made by the respondents to the questionnaire and descriptive statements that match the vocal statements. The legends are as follows: Legend: 1.00-1.80 – Strongly Disagree; 1.81-2.60 – Disagree; 2.61-3.40 – Neutral; 3.41-4.20 – Agree; 4.21-5.00 – Strongly Agree.

Table 1: Nurses' Level of *Knowledge* Towards Evidence-Based Practice in Disaster Preparedness

	Mean	SD	Verbal Interpretation
Knowledge			
I am knowledgeable about the current disaster that we have and how to mitigate its effect of it without any harm or inconvenience to our clients.	4.04	.71	Agree
I've learned numerous ways and innovative practices for responding to a disaster situation.	3.96	.61	Agree
I have the knowledge and confidence enough to help the client, community, and society.	4.07	.64	Agree
I know evidence-based practice regarding disaster preparedness and promote it as well in my workplace.	3.86	.77	Agree
The knowledge that I know about evidence-based practice is already enough to be taught to other people, thus resulting in a positive manner regarding disaster preparedness.	3.83	.79	Agree
The evidence-based practice helps nurses in their disaster preparedness in the workplace.	4.28	.52	Agree
The evidence-based practice regarding disaster preparedness is widely known in the workplace.	3.75	.77	Agree
I get sufficient knowledge and background about evidence-based practice regarding disaster preparedness.	3.83	.79	Agree
My workload does not affect the effort to know and learn evidence-based practice involving disaster preparedness.	3.16	1.05	Neutral

I have encountered the word evidence-based practice in my line of work in nursing.	4.01	.74	Agree
Category Mean	3.88	0.74	Agree

Legend: *1.00-1.80 – Strongly Disagree; 1.81-2.60 – Disagree; 2.61-3.40 – Neutral; 3.41-4.20 – Agree; 4.21-5.00 – Agree*

a. Knowledge

It is evident that the 4.28 mean got the highest mean with a strongly agreed verbal interpretation that deals with the statement, *"The evidence-based practice helps nurses in their disaster preparedness in the workplace."* It is indeed important that the nurses know when in terms to disaster preparedness, this key role will help them to be mentally and physically prepared in the workplace. It is considered to be one of the most essential professional qualities for nurses, as it forms the foundation for the provision of high-quality nursing care (Alamri, 2021). The second highest mean score is 4.07, with a verbal interpretation of agree, which deals with the statement, *"I have the knowledge and confidence enough to help the client, community, and society."* Nurses must have the knowledge and qualities of tributes to help the client, community and society. For nurses, it is beneficial in a wide range of situations and environments (Chau et al., 2021). The third highest mean score is 4.04 with agreed verbal interpretation that deals with the statement *"I am knowledgeable about the current disaster that we have and how to mitigate its effect of it without any harm or inconvenience to our clients."* In this part, it is indeed that some of the nurses must be knowledgeable about the current disaster in the state of their workplace. It is followed by the mean score of 4.01 with agree verbal interpretation, which deals with the statement *"I have encountered the word evidence-based practice in my line of work in nursing."* This means that some of the respondents encountered the phrase evidence-based practice, as it is in line with their work in Hospital field.

Fifth, the mean score of 3.96 with the verbal interpretation of agree; it deals with the statement *"I've learned numerous ways and innovative practices for responding to a disaster situation."* This means that some of the respondents agreed in this statement. Some of the respondents have learned numerous ways that is innovative for responding a disaster situation. According to Shaukat, Ali, and Razzak (2020), Nurses encounter a substantially more exposure of disaster situation unexpectedly, nurses must be knowledgeable and prepared. Sixth, with agreed verbal interpretation, the 3.86 mean score deals with the statement, *"I know evidence-based practice regarding disaster preparedness and promote it as well in my workplace."* Some of the respondents have agreed on this statement, most of them are familiar and have known and promote the disaster preparedness in their work field. Seventh, with both agreed verbal interpretation, the 3.83 mean score deals with two statements, *"The knowledge that I know about evidence-based practice is already enough to be taught to other people, thus resulting in a positive manner regarding disaster preparedness," and "I get sufficient knowledge and background about evidence-based practice regarding disaster preparedness."* Most of the respondents agreed in this statement, it is indeed important that the knowledge they have is enough for the nurses to be equipped and competitive in terms of giving service in disaster preparedness. It is also important that the nurses have background about evidence-based practice regarding disaster preparedness. It was followed by the mean score of 3.75 with verbal interpretation of agree that deals with the statement of *"The evidence-based practice regarding disaster preparedness is widely known in the workplace."* Most of the respondents agreed that evidence-based practice regarding disaster preparedness is known and popular by practice and knowledge in the hospital.

Lastly, with the lowest mean score of 3.16, with a verbal interpretation of neutral, it deals with the statement, *"My workload does not affect the effort to know and learn evidence-based practice involving disaster preparedness."* This means that some of the respondents did not agree nor disagree in this statement. This means that workload of the nurses might not or might affect their efforts to learn evidence-based practice involving disaster preparedness. Evidence from research, which is a representation of successful innovation, must, without a doubt, be supported by effective implementation and an enabling setting in order to achieve major outcomes (Chien, 2019). This is the case and there is no question about it. Professor Rita Pickler (2018) said in one of her speeches that nursing science need to include all kinds of research, ranging from the stage of discovery to that of translation, from the laboratory to the clinical setting, and from the mechanistic to the holistic. Evidence-based practice (EBP) is defined by Mthiyane and Habedi (2018) as the integration of the best evidence from well-designed studies with the expertise of clinicians. This integration also includes internal evidence from patient assessments and practice data, as well as patients' preferences and values.

This data showed that the 4.28 mean score dominated with strongly agreed verbal

interpretation, and the lowest mean is the 3.16 mean score with neutral verbal interpretation. The category mean was 3.88 with verbal interpretation of Agree.

Table 2: Nurses' Level of Attitudes Towards Evidence-Based Practice in Disaster Preparedness

	Mean	SD	Verbal Interpretation
Attitude			
I have a positive attitude regarding responding to the disaster preparedness situation in my community and even in a hospital setting.	3.96	.61	Agree
I am thankful that we've done the training in disaster planning in our school, which I can apply in my profession in the hospital setting.	3.89	.67	Agree
I am positive about disaster preparedness because I've attended numerous training programs and seminars.	3.73	.90	Agree
I feel like evidence-based practice involving disaster preparedness has increased my stress level because of what might happen in the future.	3.62	.96	Agree
I am confident that I can handle evidence-based practice involving disaster preparedness if it ever will be in practice.	3.79	.76	Agree
I am assertive when making independent nursing interventions about evidence-based practice involving disaster preparedness.	3.83	.69	Agree
I feel motivated and energized in knowing and sharing my knowledge regarding evidence-based practice involving disaster preparedness.	3.76	.67	Agree
Maintaining a positive mood has been difficult for me when learning and teaching my colleagues evidence-based practice involving disaster preparedness.	3.37	.86	Agree
I easily feel irritated if someone was forcing me in doing evidence-based practice involving disaster preparedness.	2.72	1.11	Neutral
I am not satisfied with my current attitude with evidence-based practice involving disaster preparedness.	2.89	.92	Neutral
Category Mean	3.56	0.82	Agree

Legend: *1.00-1.80 – Strongly Disagree; 1.81-2.60 – Disagree; 2.61-3.40 – Neutral; 3.41-4.20 – Agree; 4.21-5.00 – Agree*

b. Attitude

It is evident that the 3.96 mean got the highest mean with an agreed verbal interpretation that deals with the statement, *"I have a positive attitude regarding responding to the disaster preparedness situation in my community and even in a hospital setting."* According to the results of research (Degu AB et al., 2022; Chau et al., 2021), only a tiny fraction of nurses employed evidence-based practice (EBP) and utilised it to its greatest potential. However, it was observed that very little EBP was being implemented owing to a number of difficulties (Cleary-Holdforth et al., 2021; Atakro et al., 2020; Al-Maskari et al., 2018).

The second highest mean score is 3.89, with a verbal interpretation of agree, which deals with the statement, *"I am thankful that we've done the training in disaster planning in our school, which I can apply in my profession in the hospital setting."* It is important that nurses have done training and seminars, it can build their attitude and knowledge that can apply in any profession in the hospital setting. For nurses, it is beneficial in a wide range of situations and environments (Chau et al., 2021). The third highest mean score is 3.83 with agreed verbal interpretation that deals with the statement *"I am assertive when making independent nursing interventions about evidence-based practice involving disaster preparedness."* In this part, it is indeed that some of the nurses must be assertive about making nursing interventions as part of good attitude of a nurse in the hospital field or community setting. It is followed by the mean score of 3.79 with

agree verbal interpretation, which deals with the statement *"I am confident that I can handle evidence-based practice involving disaster preparedness if it ever will be in practice."* This means that some of the respondents agreed in this statement, Nurses are confident that they can handle evidence-based practice in community setting or work field.

Fifth, the mean score of 3.76 with the verbal interpretation of agree; it deals with the statement *"I feel motivated and energized in knowing and sharing my knowledge regarding evidence-based practice involving disaster preparedness."* This means, that some of the respondents agreed in this statement. Some of the respondents feel motivated and energized in sharing their knowledge as part of good attitude of nurses. According to Shaukat, Ali, and Razzak (2020), Nurses encounter sharing of knowledge regarding evidence-based practice involving disaster preparedness. Sixth, with agreed verbal interpretation, the 3.73 mean score deals with the statement, *"I am positive about disaster preparedness because I've attended numerous training programs and seminars."* Some of the respondents have agreed on this statement, most of them are familiar and have known programs and seminars that will help them to boost their skills, they have attended numerous events to build the right attitude for the work place. Seventh, with agreed verbal interpretation, the 3.62 mean score deals with the statement, *"I feel like evidence-based practice involving disaster preparedness has increased my stress level because of what might happen in the future."* Most of the respondents agreed in this statement, it is indeed important that the stress level of the nurses must be manage accordingly. It was followed by the mean score of 3.37 with verbal interpretation of agree that deals with the statement of *"Maintaining a positive mood has been difficult for me when learning and teaching my colleagues evidence-based practice involving disaster preparedness"* Most of the respondents agreed that Maintaining a positive mood has been difficult for them when learning and teaching evidence-based practice involving disaster preparedness, it is important for a professional to maintain good attitude in workplace. The attitudes of the nurses regarding EBP are quite positive. According to Lehane et al. (2018), there is thus an immediate need for the concepts of EBP to be incorporated throughout the teachings and learnings of all facets of the healthcare vocations. It was followed by the mean score of 2.89 with verbal interpretation of neutral, it deals with the statement *"I am not satisfied with my current attitude with evidence-based practice involving disaster preparedness."*

Lastly, with the lowest mean score of 2.72, with a verbal interpretation of neutral, it deals with the statement, "*I easily feel irritated if someone was forcing me in doing evidence-based practice involving disaster preparedness."* This means that some of the respondents did not agree nor disagree in this statement. This means that the nurses easily feel irritated if someone was forcing them to do an activity related evidence-based practice involving disaster preparedness. The same results were found in the research conducted by Clarke et al. (2021), which demonstrated that nurse practitioners placed a high value on the use of EBP and believed that it played a significant role in standardizing nursing practice with regard to patient care. EBP is useful and essential for enhancing clinicians' decision-making as well as patient outcomes (Chiwaula & Jere, 2022). In addition, evidence-based practice lends a hand in the cultivation of clinical judgment, encourages more accountability on the part of healthcare professionals, and makes certain that professionals' knowledge is maintained up to date (Al-Maskari & Patterson, 2018). Caano (2020), found that new nurses had optimism in their eyes even as nursing students since they anticipated their lovely job after facing all those sleepless hours with heavy textbooks. Caano also found that nursing students had hope in their eyes. It is likely that at one point in time they really considered quitting up since the light at the end of the tunnel looked to be so implausible and so far, away.

This data showed that the 3.96 mean score dominated with agreed verbal interpretation, and the lowest mean is the 2.72 mean score with neutral verbal interpretation. The category mean was 3.56 with verbal interpretation of Agree.

Table 3: Nurses' Level of Practices Towards Evidence-Based Practice in Disaster Preparedness

	Mean	**SD**	**Verbal Interpretation**
Practices			
As a nurse, I have the skill and practice to determine the best evacuation routes from the client's home, to mitigate damage such as loss in community and hospital settings.	3.76	.67	Agree

I am trained in basic first aid skills and CPR. I am aware in administering first aid, people can live without further fear, danger, or injury.	4.21	.55	Agree
I have practiced numerous disaster preparedness techniques including assembling a disaster supply kit.	3.51	.85	Agree
I excel at making good practices and habits about evidence-based practice involving disaster preparedness.	3.65	.70	Agree
I have good connections that I can spread evidence-based practice involving disaster preparedness to them.	3.34	.88	Neutral
Despite my workload, I am still able to know and practice evidence-based involving disaster preparedness.	3.42	.85	Agree
I am quite good at practicing drills involving disaster preparedness.	3.82	.64	Agree
When I attend seminars and webinars, I am confident in my practice involving disaster preparedness.	3.75	.82	Agree
When I pass by some friends or relatives, I always remind them about disaster preparedness because you will never know what will happen.	3.76	.86	Agree
I am having difficulty practicing workshops involving disaster preparedness.	3.01	.90	Neutral
Category Mean	3.62	0.77	Agree

Legend: *1.00-1.80 – Strongly Disagree; 1.81-2.60 – Disagree; 2.61-3.40 – Neutral; 3.41-4.20 – Agree; 4.21-5.00 – Agree*

c. Practices

It is evident that the 4.21 mean got the highest mean with a strongly agreed verbal interpretation that deals with the statement, *"I am trained in basic first aid skills and CPR. I am aware in administering first aid, people can live without further fear, danger, or injury."* It is indeed important that the nurses have trained and practiced the basic CPR and first aid. Caano (2020) found that new nurses had optimism in their eyes even as nursing students since they anticipated their lovely job after facing all those sleepless hours with heavy textbooks. Caano also found that nursing students had hope in their eyes. It is likely that at one point in time they really considered quitting up since the light at the end of the tunnel looked to be so implausible and so far, away.The second highest mean score is 3,82, with a verbal interpretation of agree, which deals with the statement, *"I am quite good at practicing drills involving disaster preparedness."* It is important that nurses have done training and seminars, it can build their confidence in terms of good practice and knowledge that can apply in drills involving disaster preparedness. For nurses, it is beneficial in a wide range of situations and environments (Chau et al., 2021). The third highest mean score is 3.76 with both agreed verbal interpretation that deals with two statements *"As a nurse, I have the skill and practice to determine the best evacuation routes from the client's home, to mitigate damage such as loss in community and hospital settings," and "When I pass by some friends or relatives, I always remind them about disaster preparedness because you will never know what will happen."* In this part, it is indeed that some of the nurses have the knowledge and practiced how to mitigate such scenarios from home to evacuation.

Fifth, the mean score of 3.75 with the verbal interpretation of agree; it deals with the statement *"When I attend seminars and webinars, I am confident in my practice involving disaster preparedness."* This means, that some of the respondents agreed in this statement. Some of the respondents attended seminars and webinars for them to be confident in the field of practice involving disaster preparedness. In addition, evidence-based practice lends a hand in the cultivation of clinical judgment, encourages more accountability on the part of healthcare professionals, and makes certain that professionals' knowledge is maintained up to date (Al-Maskari & Patterson, 2018). Sixth, with agreed verbal interpretation, the 3.65 mean score deals with the statement, *"I excel at making good practices and habits about evidence-based practice involving disaster preparedness."* Some of the respondents have agreed on this statement, most of them excelled making good practices and habits about evidence-

based practice. Seventh, with agreed verbal interpretation, the 3.51 mean score deals with the statement, *"I have practiced numerous disaster preparedness techniques including assembling a disaster supply kit."* Most of the respondents agreed in this statement, it is indeed important that nurses must practice numerous disaster preparedness techniques including assembling a disaster supply kit, as its one way to save time, and to save more lives in case of public emergency. It was followed by the mean score of 3.42 with verbal interpretation of agree that deals with the statement of *"Despite my workload, I am still able to know and practice evidence-based involving disaster preparedness."* Most of the respondents agreed that as nurses they should able still able to know and practice evidence-based involving disaster preparedness. It was followed by the mean score of 3.34 with verbal interpretation of neutral, it deals with the statement *"I have good connections that I can spread evidence-based practice involving disaster preparedness to them."* Network and connections is also important in scattering and disseminating evidence-based practice involving disaster preparedness, public, nurse staff and hospital personnel must be aware in time of public emergency.

Lastly, with the lowest mean score of 3.01, with a verbal interpretation of neutral, it deals with the statement, "*I am having difficulty practicing workshops involving disaster preparedness."* This means that some of the respondents did not agree nor disagree in this statement. This means that the nurses have problems with regards to practicing workshops involving disaster preparedness. According to the results of research (Degu et al., 2021), only a tiny fraction of nurses employed evidence-based practice (EBP) and utilised it to its greatest potential. However, it was observed that very little EBP was being implemented owing to a number of difficulties (Cleary-Holdforth et al., 2018). The attitudes of the nurses regarding EBP are quite positive. According to Lehane et al. (2018), there is thus an immediate need for the concepts of EBP to be incorporated throughout the teachings and learnings of all facets of the healthcare vocations.

This data showed that the 4.21 mean score dominated with strongly agreed verbal interpretation, and the lowest mean is the 3.01 mean score with neutral verbal interpretation. The category mean was 3.62 with verbal interpretation of Agree.

Conclusion

It is possible for hospitals to cultivate a culture of evidence-based practice among nurses in the area of disaster preparation by putting into action this structure for an innovative program. This, in turn, improves patient outcomes, contributes to the promotion of a resilient healthcare system, and helps the healthcare sector as a whole become more prepared for and responsive to natural catastrophes. This framework offers a strong platform for hospitals to build and maintain successful disaster preparation activities. Embracing evidence-based approaches is becoming more vital as the landscape of catastrophes continues to grow, and this framework gives a solid foundation for doing so.

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Conflicts of Interest

The authors declare there are no significant competing financial, professional, or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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