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Staff Education to Enhance Nurse Knowledge of Depression and Screening Tool Using Patient Health Questionnaire-9

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Executive Summary: Staff Education Project

Staff Education to Enhance Nurse Knowledge of Depression and Screening Tool Using Patient Health Questionnaire-9

by

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Summary

This staff education program focused on addressing a practice deficit regarding nonstandard depression assessment and substandard nurse knowledge of evidence-based screening tools, mainly the Patient Health Questionnaire-9 (PHQ-9), a nine-item, self-reporting test used to screen for depression and assess severity of the condition based on the *Diagnostic and Statistical Manual of Mental Illnesses, 5th Edition*. Depression exists as a familiar yet unidentified disorder among psychiatric inpatients, resulting in delayed treatment inferior outcomes. The staff education project targeted the nurses' knowledge of depression identification while also teaching them to administer the PHQ-9 for prompt screening and intervention. I used an evidence-based staff education program to determine its effects on nursing knowledge of depression and PHQ-9 application. The practice-focused question was: In an inpatient mental health facility, will an evidence-based staff education program on depression and depression screening tools, PHQ-9, improve nurses' knowledge about depression and its screening tool? Twelve psychiatric nurses participated in the project, completing pre- and posttests before and after a staff education PowerPoint presentation. The data collected were analyzed with descriptive statistics and a paired *t*-test analysis using the Microsoft Excel statistical program to evaluate the participants' knowledge progression. The statistical results indicated an increase in nurses' knowledge by an average 29.17 percentage point gain ($p < .001$). Potential implications for nursing practice by providing a tool that empowers nurses to assess for depression using the PHQ-9 scale for early detection, monitoring, and diagnosis of depression. Advanced mental health practices promotes social change in patients, families, and communities.

Background

The mental health challenge of depression creates its most profound impact on patients seeking treatment in medical centers that attend to both complex psychiatric and medical patients. Hospitals repeatedly fail to notice major depression in their patients, which leads to substandard care and prolonged hospital stays, together with additional health care costs (Prina et al., 2015). Health care providers must recognize depression during early hospital visits because patients often bring several health factors that mask depressive symptoms (Kvalbein-Olsen et al., 2023).

Health care professionals can improve depression detection efforts by adopting standardized screening tools, such as the PHQ-9, because it allows patients to begin their treatment immediately following accurate diagnoses (Nguh, 2024). Depression affects 7%–8% of adults in the United States, and the benefits of screening patients for depression include early intervention, prevention of complications, and treatment planning (Siniscalchi et al., 2020). Standardized screenings integrated into clinical workflows allow for more precise diagnosis, leading to prompt mental health care delivery to patients.

The documented advantages of depression screening examinations are not reflected in current practices at the project site inpatient mental health department (see Siniscalchi et al., 2020). The main hurdle stems from the facility's lack of standardized screening procedures because they have not established clear protocols to examine depression symptoms (see Mashaba et al., 2021). Depression screening is performed when patients enter health care facilities, yet follow-up checks for depression are not maintained over the entire treatment duration, thus creating gaps for prompt treatment

(Hooper, 2024). Depression screening should be done routinely during health intake assessments or monthly (Barry et al., 2023; Coats & Zurmehly, 2023; Mashaba et al., 2021). The failure of nursing staff to receive proper education about depression, alongside the PHQ-9 screening application, stands as a primary obstacle to prevention (Habtamu et al., 2023).

The absence of organized education about depression screening for nurses working in mental health inpatient settings produces assessment inconsistencies because they lack standard approaches to interpretation and execution. The practice-focused question that guided the project was: In an inpatient mental health facility, will an evidence-based staff education program on depression and depression screening tools, the PHQ-9, improve nurses' knowledge about depression and its screening tool? If nurses are not adequately educated on the standardized screening practices, PHQ-9 assessment techniques, and depression score interpretations, it could lead to failure to properly identify the patient's needs. Evidence-based mental health care delivery depends on essential staff education to overcome identified knowledge gaps and produce better patient outcomes.

A significant and well-established amount of evidence supports the intervention for addressing the practice gap to improve psychiatric nurses' knowledge of depression and the PHQ-9. I conducted a focused literature search in the Walden University Library using the JSTOR, CINAHL, EBCOHOST, Science Direct, and PubMed databases and a variety of keywords, such as *PHQ-9, depression, inpatient, evidence based,* and *depression screening tool*. The search parameters of being published in the English language and between the years of 2019 and 2024 were employed to enhance the

relevance of the results, yielding 11 articles. I used Johns Hopkins' evidence-based practice model for nursing and healthcare professionals to appraise and synthesize the selected evidence, supporting the intervention and addressing the practice problem.

The evidence consistently supports the effectiveness of staff education programs in improving PHQ-9 usage and accuracy in mental health settings (Blackstone et al., 2022; Coats & Zurmehly, 2023; Habtamu et al., 2023). Studies have shown that educational interventions improve staff knowledge and confidence, enabling them to use the PHQ-9 accurately and consistently (Accortt et al., 2022; Mashaba et al., 2021). Another consistent finding is that PHQ-9 training increases depression detection rates, particularly when implemented with routine use protocols (Nguh, 2024; Siniscalchi et al., 2020). Evidence indicated that training on the PHQ-9 enhances compliance and detection rates, leading to earlier identification and intervention for depressive symptoms (Barry et al., 2023; Coats & Zurmehly, 2023; Siniscalchi et al., 2020). The evidence also supports that using PHQ-9 regularly enables nurses to recognize depression more consistently (Coats & Zurmehly, 2023; Hawkins, 2023). While initial training may improve screening rates, sustained follow-up and adherence may require additional interventions, such as regular retraining sessions (Coats & Zurmehly, 2023; Habtamu et al., 2023). The American Psychiatric Association and the U.S. Preventive Services Task Force endorsed standardized depression screening protocols for regular clinical practice (Boggs et al., 2024).

The results of the previous studies reviewed guided the development of the current project's education content, including a PowerPoint presentation, the PHQ-9 tool, and a case study (see Appendix A). Previous study findings justified the implementation

of a staff education program to increase staff knowledge about depression and the PHQ-9 screening tool, significantly contributing to evidence-based practice (Coats & Zurmehly, 2023; Habtamu et al., 2023; Mashaba et al., 2021).

Staff Education Project Development

I developed a staff education program for inpatient psychiatric nurses to understand depression and learn how to apply the PHQ-9 as a standardized screening tool. I completed an ethics pledge prior to implementation of the education to participants. The participant sample consisted of psychiatric registered nurses treating inpatient mental health patients whose depression symptoms frequently stay unidentified. Inpatient psychiatric nurses who perform patient assessment and care need proper education in depressive symptom identification and response capabilities to fulfill their essential role (Deshields et al., 2021). I paid particular attention to this segment because my goal for the project was for psychiatric nurses to use the PHQ-9 for better depression diagnosis and patient care response improvement. Twelve participants with direct patient care participated. Each of the 12 participants developed an anonymous four-digit number. The demographic characteristics of the participants included a range of ages, from 26–68 years, and clinical experience of 2–15 years.

Before implementation, I presented the teaching documents to three experts to evaluate the content validity and usability. Seven statements (see Appendix B) were rated using a five-point Likert scale (1 = *strongly disagree* and 5 = *do not agree*). According to the experts, the teaching documents were appropriate for increasing the staff's knowledge of depression screening. The mean score for the experts was 5, indicating they believed the teaching materials had content validity.

The education program was presented on 3 days to accommodate the staff's availability. The educational program consisted of three sequential steps. I first assessed the psychiatric nurses' initial understanding with a pretest, which was followed by the evidence-based education and then an evaluation of their new knowledge acquisition.

The beginning phase, the pretest, required conducting a preeducation knowledge assessment to determine the psychiatric nurses' baseline understanding of depression and the PHQ-9 assessment. On the pretest, the psychiatric nurses answered 10 multiple-choice questions (see Appendix C) about depression and the PHQ-9 assessment tool. The initial evaluation revealed on what educational points nurses were lacking knowledge. The educational program (i.e., the second phase) began after the initial assessment phase. I delivered the educational program using PowerPoint presentation techniques and educational activities with case studies and interactive sessions. The staff education program focused on the assessment of psychiatric disorders and mental health screenings by nurses and contained descriptions of depression along with PHQ-9 administration procedures and best practices for assessment integration. The education program included practical clinical scenarios that allowed nurses to use their newfound knowledge for detecting depression indicators and establishing correct PHQ-9 score assessments. The staff education program reiterated that standardized screening systems help patients and their outcomes while minimizing untreated depression among hospital patients (see Accortt et al., 2022). The third phase, the posttest, was a knowledge assessment related to the staff education program's objectives, measuring the session's effectiveness when given to psychiatric nurses immediately after completion.

I conducted a statistical evaluation of the participants' pre- and the posttest data to assess nurse knowledge using Microsoft Excel. I used descriptive statistics to calculate test assessment findings through average scores, deviation measures, and improvement percentages. Paired *t* tests showed the extent to which the changes between pre- and postassessment scores were significant (see Khubnani et al., 2023). The results helped determine the impact the education material had on participants' knowledge of depression concepts and their ability to use PHQ-9.

The nursing education program results were achieved by examining the participants' preeducation test scores against those obtained after the education. The quantitative pre-/posttest score comparison led to an evaluation of enhanced knowledge acquisition. A complete assessment of staff education project outcomes for depression screening practices in inpatient psychiatric nurses was achieved through objective measurements.

Results

The statistical analysis results showed a significant increase in nurses' knowledge after the educational program. The participants' pretest mean was 65.83% (*SD* = 1.26), while the posttest mean was 95% (*SD* = 0.65). The pre- and post-test scores for each participant can be seen in Figure 1, and their average scores are displayed in Figure 2. The paired samples *t* test was $t = 64.2147$, $df = 22$, standard error of difference = 0.408, and the two-tailed *p* value is less than .001, indicating that this difference is highly statistically significant (see Table 1). The participants' results can be seen in Table 2. Overall, the intervention effectively improved the psychiatric nurses' knowledge of depression screening in the inpatient setting.

Table 1

Paired Samples t *Test for Nurse Knowledge Levels*

Outcome	Pretest		Posttest		*df*	95% CI	*t*
	M	*SD*	*M*	*SD*			
Staff education program	65.83	1.26	95.00	0.65	22	[-27.02, -25.32]	64.21***

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1

Pre- and Posttest Scores

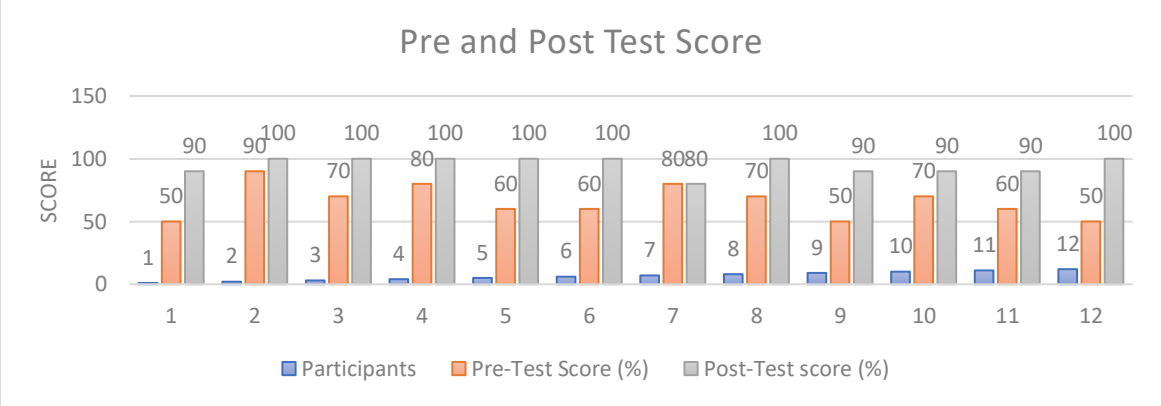

Figure 2

Mean Pre- and Posttest Scores

Table 2

Participant Results

Participants	Pretest score (%)	Posttest score (%)	Score differences %
0001	50	90	+40

0002	90	100	+10
0003	70	100	+30
0004	80	100	+20
0005	60	100	+40
0006	60	100	+40
0007	80	80	+0
0008	70	100	+30
0009	50	90	+40
0010	70	90	+20
0011	60	90	+30
0012	50	100	+50
Mean score	65.83%	95%	+2.92 %

Psychiatric nurses who participated in the PHQ-9 depression screening test showed improved knowledge after the staff education. Pre- and posteducation assessment scores showed that nursing staff substantially increased their knowledge about recognizing depression symptoms and using the PHQ-9 tool correctly as well as standard screening practices. The staff education program produced positive outcomes since numerous nurses stated they had obtained better skills to perform depression screening during regular patient assessments.

The project site organization plans to adopt this staff education project by implementing a formal procedure for detecting depression. The standardized approach to patient assessment allowed nurses to detect depressive symptoms sooner, producing faster interventions. Use of the PHQ-9 screening by nurses as part of their standard practice could lead to improved mental health care procedures within the hospital. Although the staff education program met its primary objectives, some limitations deserve discussion. The small sample size of 12 psychiatric nurses involved in the program limits generalization. Trying to incorporate this finding in a larger or more

varied health care setting may prove difficult; this sample may not adequately reflect the diversity of knowledge levels attained. Moreover, the staff education program was implemented at a single site; there may be variation in the replicability of the outcomes in other inpatient or outpatient facilities with different socio-demographic characteristics. However, despite these limitations, the project's results should substantially impact health care practices in other institutions beyond the site. Educating nurses in an inpatient psychiatric setting could result in early detection, monitoring, and diagnosis of depression, which could improve treatment, patient outcomes, and proper diagnosis. Organizations may find the education program implemented in this project helpful in improving depression screenings, which could also contribute to reducing improper depression diagnoses.

Conclusions

The staff's knowledge of depression and the use of the PHQ-9 prior to the implementation of the staff educational presentation was 65.83%, and it increased to 95% after the staff education program. The staff's knowledge increased by an average 29.17 percentage point score, indicating that the staff education was effective in improving the knowledge of psychiatric nurses to screen patients for depression in an inpatient setting ($p < .001$).

The organization-wide standardization of depression screening allowed health care providers to communicate better because PHQ-9 scores helped them create joint treatment plans. Standardization of depression screening improved both patient-by-patient health care delivery and strengthened the organization's dedication to evidence-based psychological service delivery.

The project site organization should consider implementing several future recommendations that would elevate depression screening practices. Expanding education about PHQ-9 to other health care staff, such as physicians, social workers, and interdisciplinary team members who provide patient care, represents one critical future action. Depression screening and intervention benefit from provider teamwork, so the organization must ensure all staff members understand PHQ-9 and how to use it for complete mental health assessment and treatment. The organization also needs ongoing evaluations to determine if the current results can continue in addition to measuring the project's permanent effect on the nursing staff's knowledge increase. The standardized screening of patient mental health requires periodic ongoing educational opportunities for health care staff and system-wide monitoring of the PHQ-9 application to sustain validated screening as a key component of clinical treatment (Hawkins, 2023). Further research on depression screening outcomes among patients could produce vital information about the effectiveness of mental health care enhancement through this approach. This initiative's social and clinical effects are fundamentally significant because they advance nursing work and provide equal health opportunities to patients.

The staff education project has the potential to positively impact nursing practice and social change. Standardized screening methods enable medical centers to achieve equal mental health evaluation and essential intervention access for patients from all backgrounds during depression diagnosis and treatment. By increasing nurses' knowledge in assessing and using the PHQ-9 scale to evaluate patients for depression, the project can contribute to positive social change. Furthermore, reducing the prevalence of untreated and undiagnosed depression in individuals has the potential to enhance the

quality of life for individuals battling depression. Using the PHQ-9 scale to enhance the early detection, monitoring, and diagnosis of depression plays a significant role in promoting the mental well-being of patients, their families, and the communities, promoting social change among all.

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Appendix A: Case Study

Let us consider a case study. Imagine a 45-year-old patient who reports feeling persistently down over the past few weeks and experiencing fatigue. After administering the PHQ-9, the patient scored a 17

Questions

1. What risk level on the depression screening tool PHQ-9 does a score of 17 indicate? **Moderately severe depression.**

2. Given this score, what are the next steps for this patient?
   Immediate referral for mental health support, therapy, and a medication evaluation.

Appendix B: Content Expert Review

Thank you for agreeing to evaluate my educational PowerPoint presentation on Enhancing Nurse Knowledge of Depression and Screening Using PHQ-9 for its validity and usability. Please evaluate the course objectives, PowerPoint presentation, and test based on the following statements. Rate the statements from 1-5 (1=do not agree. 5=strongly agree)

1. The course objectives are specifically and unambiguously described _5_
2. There is a strong correlation between the course objectives and the course content _5_
3. A straightforward and applicable content is presented in the PowerPoint presentation for nurses to understand the information presented _5_
4. In the PowerPoint presentation, information is provided that is appropriate for nurses to understand the principles and skills relating to the topic of Depression and the PHQ-9 Scale _5_
5. The information is presented clearly to enable nurses to put into practice the concepts and skills described _5_
6. Specific and unambiguous test items have been selected __5__
7. Test items are aligned with the objectives of the course __5__

Appendix C: Test Questions

Title: Staff Educational Depression Test _____4-digit number

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Please answer the following ten multiple-choice questions by selecting the correct response below.

1. The Patient Health Questionnaire-9 (PHQ-9) is used to screen and assist in detecting which of the following conditions?
    a. **Depression Symptoms**
    b. Schizophrenia
    c. Suicide
    d. None
2. Which depressive symptoms are NOT assessed by the PHQ-9 tool?
    a. Loss of interest in doing things previously liked.
    b. **Hallucinations**
    c. Sleep problems.
    d. Hopelessness
3. What is the highest score that can be achieved using the PHQ-9 tool to assess for depression?
    a. 4
    b. 9
    c. **27**
    d. 14
4. Who can administer the PHQ-9 tool?
    a. Orally by a staff member
    b. Self-administration
    c. **A and B**
    d. None of the above
5. How frequently should the PHQ-9 tool be administered?
    a. Only when the doctor requests
    b. **Routinely during mental health intake assessments or Monthly**
    c. At the end of treatment
    d. Once
6. A score of 15 on the PHQ-9 assessment tool represents what level of depression?
    a. None
    b. Mild
    c. **Moderate Severe**
    d. Severe

7. Approximately what percentage of adults in the United States suffer from major depressive disorder (MDD)?
    a. 2-4%
    b. 1-2 %
    c. **7-8%**
    d. 10%
8. Major depressive disorder (MDD) prevalence increased to approximately what
    a. percentage during the pandemic?
    b. 2-4 %
    c. **28%**
    d. 7-8%
    e. 14%
9. What are the benefits of screening patients for depression?
    a. For health record purposes
    b. Treatment planning and knowing the individual's scoring.
    c. **Early Intervention, prevention of complications, and treatment planning**
    d. For the provider's convenience
10. What intervention can be recommended for a patient with moderate to severe depression
    score from the PHQ-9 assessment?
    a. Get a rest
    b. Nothing
    c. **Therapy and medication**
    d. Drink and eat a lot of water and food.