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Anna Rasmussen

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Anna Rasmussen, BSN, RN

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Approved by:  Date: 06/02/2024

DNP Faculty Mentor: Jaime Navetta, DNP, MN, RN, CNE

Approved by: *Natalie Dreyfoos, DNP* Date: [May 31, 2024](#)

DNP Project Reader: Natalie Dreyfoos, DNP, PMHNP-BC

A Depression Clinical Decision Pathway for Oncology Nurses

Anna E. Rasmussen, BSN, RN

College of Nursing, Seattle University

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Dr. Jaime Navetta

Abstract

Background: Despite a higher risk for depression and suicide than the general population, oncology patients are not screened as frequently as national guidelines suggest. The purpose of this project was to improve nursing assessment of depression in oncology patients on an inpatient medical oncology unit using a newly developed pathway.

Objectives: The aims of this project were to: 1) create and provide nursing with a clinical decision pathway for depression that will be sustainable; 2) increase nurses' confidence in depression assessment and screening for depression; 3) increase depression screening and advocacy frequency on the medical oncology unit; and 4) incorporate stakeholder feedback after implementation to revise the decision pathway.

Methods: A new clinical pathway was developed titled the Depression Clinical Decision Pathway for Oncology, that outlined when to use a two-step Patient Health Questionnaire-9 (PHQ-9) screening. Nursing staff members completed pre- and post-implementation surveys to assess confidence in depression assessment and screening, as well as depression screening and advocacy frequency.

Findings: Considering a large difference in pre- and post-survey sample sizes, confidence in results and ability to determine statistical significance was limited. However, screening frequency increased and nursing confidence in both screening and assessment increased with the use of the Depression Clinical Decision Pathway for Oncology.

Keywords: depression, cancer, PHQ-9, nursing

Implications for Practice:

1. Oncology nurses report lack of confidence in depression screening and assessment.
2. Confidence in depression screening and assessment increased with a clinical pathway outlining when and how to screen patients for depression.

3. Oncology nurses describe a need for increased education and an integration of depression screening into routine practice to increase their confidence in depression screening and assessment.

A Depression Clinical Decision Pathway for Oncology Nurses

Patients with a cancer diagnosis have a five times greater risk of developing depression than the general population (Hartung et al., 2017). Despite this risk, the oncology population often does not receive depression screening, contrary to the American Society of Clinical Oncology's recommendations (Hahn et al., 2022; Shreders et al., 2018). Furthermore, cancer patients often do not receive psychological support or treatment when indicated, possibly related to a normalization of distress within the oncology care community (Niedzwiedz et al., 2019). The lack of mental health interventions for this population is associated with poor mental health and oncologic outcomes, including a suicide rate four times greater than the general population (Hinz et al., 2016; Zaorsky et al., 2019). A root-cause analysis study found that 67% of oncology patients who died by suicide had not been referred to mental health services (Aboumrad et al., 2018). Further mental health screening and intervention is necessary to meet the needs of this population.

Increased psychological support from nursing staff for oncology patients has shown to improve mental health symptoms in oncology patients (Sun et al., 2021). However, the literature suggests that, similar to other oncology providers, oncology nurses often fail to accurately detect patient distress (Granek et al., 2021). This project seeks to improve nursing knowledge and confidence in assessing depressive symptoms in oncology patients, ultimately increasing nurse-provider conversations about depression care and management for this population.

Background and Significance

Literature Review

Depression Screening's Impact on Assessment and Care

The literature suggests that depression screening improves mental health assessment and care in the oncology population. Screening can facilitate conversations with patients about

depression, can assist providers in assessing the need for treatment, and can increase behavioral health referrals (Beauplet et al., 2021; Hahn et al., 2022).

Patient Health Questionnaire-9 Screening in Oncology

The Patient Health Questionnaire-9 (PHQ-9) demonstrates 88% sensitivity and 88% specificity for identifying major depression in the general population (Kroenke et al., 2001). While sensitivity and specificity are not available for the PHQ-9 screening in the oncology population, Shinn et al. (2017) demonstrated that the PHQ-9 two-phase scoring method had the best depression diagnostic accuracy in cancer patients when compared to other screening tools.

Nursing Support

Oncology nurses have a unique opportunity to provide support to their patients. Nurses are the members of the oncology healthcare team most frequently tasked with providing mental health screening and nurses have been shown to facilitate more mental health care referrals when compared to other disciplines (i.e. psychology and social work) (Fradgley et al., 2020; Musiello et al., 2017). Nursing psychological support and discussions about distress and mental health can also impact patients' mental health symptoms. When compared with health education only, "psychological nursing," which includes psychological assessment and counseling, improved depression and anxiety symptoms in cancer patients (Sun et al., 2021, p. 526).

Clinical Pathways

Clinical pathways, or decision trees, are healthcare tools to guide evidence-based practice (Rotter et al., 2019). The literature supports the use of these tools within the oncology population, both for oncologic care and mental health care. In a prospective, cross-sectional study, Ebben et al. (2022) found that 92.2% of decisions through a decision tree model aligned with multi-disciplinary team recommendations for oncologic treatments. Additionally, Butow et

al. (2015) developed a clinical pathway for depression and anxiety screening in oncology patients that was introduced in 12 medical centers in Australia. Staff members reported that use of the tool was acceptable, appropriate, and not burdensome (Butow et al., 2021).

Gaps in the Literature

While depression screening, nursing support, and clinical pathways are evidence-based practices within oncology, a gap exists between recommendations and clinical practice in these areas. Most recently, a 2019 review found that only 26% of 23 National Comprehensive Care Network cancer care centers screen all patients for emotional distress (a term used within the oncology community for mental health concerns including depression) (Donovan et al., 2019).

Despite literature supporting that nurses have the ability to successfully screen and psychologically care for patients, nurses still report a lack of confidence in depression recognition and care (Granek et al., 2019). This lack of confidence is related to a lack of formal training in the identification of depression and limited implementation of organized strategies to identify depression (Granek et al., 2019). Unstructured assessments may lead to incomplete information collection and incorrect diagnosis (Nakash & Nagar, 2018). Providing nurses with further resources, including education, may improve confidence in depression recognition and could improve psychological care for patients.

The literature supports the use of clinical pathways for prescribing medical providers working in oncology (Butow et al., 2021; Ebben et al., 2022). However, there is a lack of research about the use of clinical pathways or decision trees for nurses working in oncology. This is surprising, as oncology nurses regularly use clinical pathways for assessments and nursing-driven protocols (i.e. heparin infusions and end-of-life opioid infusions).

Theoretical Framework

The Donabedian quality improvement model was used to plan, implement, and evaluate this project. Donabedian outlines three categories for planning and evaluation: structure,

process, and outcome (Donabedian, 1988). For this project, structure included the inpatient oncology unit, the unit staff members, and the unit's resources. The process of this project included the use of the newly developed Depression Clinical Decision Pathway for Oncology (DCDPO) and two-step PHQ-9 screening administration. The outcomes of this project included changes in depression screening and advocacy frequency and changes in nursing confidence.

The Problem and this Project's Purpose

There is room for improvement in depression identification and treatment in oncology. The lack of regular screening, an inadequate number of readily available mental health providers, and inconsistent referral have contributed to the under recognition and undertreatment of depression and other psychiatric conditions in this patient population (Hahn et al., 2022). In a cross-sectional study, only 34% of 725 women found to have depression had a provider respond to their depressive symptoms, through diagnosis of a depressive disorder, anti-depressant prescription, or mental health care referral (Check et al., 2019). This lack of identification and treatment poses a financial concern to the healthcare system; oncology patients with depression cost around \$60,623 more in annual hospital charges than oncology patients without (Mausbach et al., 2020).

The purpose of this project was to improve nursing assessment of depression in oncology patients on an inpatient medical oncology unit using a newly developed pathway that outlined when to use a two-step PHQ-9 screening. The aims of this project were to: 1) create and provide nursing with a clinical decision pathway for depression that will be sustainable; 2) increase nurses' confidence in depression assessment and screening for depression; 3) increase depression screening and advocacy frequency on the medical oncology unit; and 4) incorporate stakeholder feedback after implementation to revise the decision pathway.

Methods and Design

Design

This project was a mixed methods quality improvement project. The purpose of this project was to improve nursing assessment of depression in oncology patients on an inpatient medical oncology unit using a newly developed pathway (the DCDPO tool) that this writer developed and verified with licensed psychiatric providers.

This project was presented to both Seattle University's and the implementation site's Internal Review Boards and was determined to be exempt.

Setting

Data was collected from nursing staff on a 30-bed medical oncology inpatient unit in a large, urban medical center in the Pacific Northwest. This unit primarily serves patients with acute leukemias and additionally serves patients with solid tumor malignancies. Patients are admitted for new diagnoses, chemotherapy, complications, and end-of-life care. Average length of stay ranges from three days to multiple months. There are 70 registered nurses staffed on this unit.

Participants

Participants were registered nurses permanently employed on the medical oncology unit. On this unit, nursing staff experience ranges from newly graduated nurses to nurses with 30 years of experience. Staff ages range from 22 to 65 and 94% of staff members are female. Participants were recruited through email via an automated unit distribution list, advertising sheets in break areas and at the nurses' station, and word of mouth. No formal participant selection process was utilized and participation was optional. Participation was also encouraged through reminder emails, and informal, in-person conversations with nurses. Thus, this project's participants were a convenience sample. Nurses working per diem, part-time, and full-time were included. Registered nurses floating to the unit (i.e. float pool nurses or nurses from other units),

student nurses, and other members of nursing staff (i.e. patient care technicians or nursing technicians) were excluded.

The Intervention and Data Collection

The primary intervention was the implementation of the DCDPO tool (see Appendix A). Physical copies of the DCDPO were available at the nurses' station and in break areas. Electronic versions were available via Quick Response (QR) codes posted throughout the unit. Additionally, nurses received electronic health record (EHR) access to the Patient Health Questionnaire-2 (PHQ-2) and PHQ-9 depression screening tools to facilitate completion of a two-step screening process. The DCDPO presented nurses with common signs of depression specific to inpatient oncology: low mood, fatigue, insomnia or hypersomnia, low motivation for daily cares (reflective of fatigue, psychomotor slowing, and anhedonia), and social isolation (reflective of fatigue and anhedonia) (Saracino et al., 2017). With any of these symptoms, nurses were directed to use the PHQ-2 screening. If the patient screened positive (a score greater than or equal to three), then the nurse was instructed to screen the patient with the PHQ-9. The tool outlined appropriate nursing interventions dependent upon the patient's PHQ-9 score. For example, scores suggesting minimal depressive symptoms prompted the nurse to continue to monitor symptoms and consider a Spiritual Care consult. Scores suggesting severe depressive symptoms prompted the nurse to notify the primary oncology team, ask for a psychiatry consult, and discuss potential treatment options.

Registered nurses had two weeks to complete an online pre-implementation survey. They were then given the DCDPO to use for depression screening for two months. After this implementation period, they were given two weeks to complete an online post-implementation survey.

Measures, Tools, and Instruments

Pre- and post-implementation surveys were created using Qualtrics survey software. Both surveys contained a mixture of Likert scale questions and free response questions. These surveys were used to assess nurses' confidence in depression assessment and depression screening. They also included questions about the frequency of depression screening and advocacy pre- and post-implementation, about barriers to using the DCDPO, and for suggestions to further facilitate using the DCDPO in regular practice. Additional readers reviewed these questions for risk of bias prior to administration. These surveys produced both numerical and descriptive data, requiring the use of both quantitative and qualitative data analysis.

Data Analysis and Evaluation

Quantitative data analysis was conducted on Microsoft Excel and Qualtrics. Descriptive statistics such as percentages and means were calculated and reviewed. Utilizing t-tests to compare means from pre- and post-intervention surveys was planned, however, there were not enough post-intervention survey participants to conduct this analysis (see Results). Qualitative data analysis was conducted using descriptive coding and secondary coding (Saldana, 2009). Analytic memos were kept to clearly keep record of this writer's thought process (Saldana, 2009). Codes and memos were reviewed by a faculty mentor.

Results

Pre-Implementation Surveys

A total of 49 pre-implementation surveys were submitted prior to initiating use of the DCDPO. There were 10 blank submissions, which were excluded from the data set that was analyzed. Additionally, one submitted survey only included four completed answers and was removed prior to data analysis. Therefore, 38 responses were included in data analysis. Several

submitted surveys included quantitative data without responses to free response questions. These results were included for quantitative analysis and excluded from qualitative analysis.

Screening and Advocacy Frequency

There were 38 responses for screening and advocacy frequency (see Table 1 and Table 2, respectively). 76.9% of nurses reported screening patients for depression using a standardized tool zero times and 41% of nurses reported advocating zero times within the previous two months.

Depression Assessment Confidence

Nurses were asked to rate their confidence in assessing patients for depression using a Likert scale (see Table 3). The average was 2.9, indicating that, on average, nurses felt somewhat confident in their assessment ability prior to using the DCDPO. Additionally, participants were asked to explain their rating in a free response format. Common themes were identified that contributed to increased and decreased assessment confidence.

Factors Contributing to Increased Confidence. Eight participants attributed their confidence in assessment to experience or formal education. These statements included reference to years of nursing experience and a previous degree in psychology. Seven participants referenced an understanding of depression and depressive symptoms. Two participants referenced a personal experience with depression as increasing assessment confidence.

Factors Contributing to Decreased Confidence. Twelve participants attributed a lack of confidence to assessment difficulty, including difficulty distinguishing clinical depression and anticipated grief related to a cancer diagnosis. Four participants felt low confidence due to lack of training and resources and one participant stated low confidence due to environmental difficulty (e.g. patients sleeping during night shift).

Depression Screening Confidence

Nurses were asked about their confidence in screening patients for depression with a Likert scale question (see Table 4). The average confidence was 2.6, corresponding to a rating between slightly and somewhat confident. Participants were asked to explain their rating in a free response question.

Factors Contributing to Increased Confidence. The clear nature of administering screening tools was the most frequently cited theme contributing to increased confidence, identified by four participants. Two other participants attributed confidence to previous education and a baseline confidence in their practice.

Factors Contributing to Decreased Confidence. Decreased confidence in depression screening was primarily attributed to two themes: not being a part of current practice and lack of familiarity. Each theme was cited by seven participants.

Post-Implementation Surveys

A total of 12 surveys were submitted after the implementation of the DCDPO. Of these surveys, four were eliminated as the only responses were to questions about shift worked, full-time equivalent (FTE), and/or whether the pre-implementation survey was completed. One submitted survey that did not respond to free response questions was included for quantitative analysis only. This resulted in eight submitted surveys for analysis. Three out of seven participants reported using the DCDPO (one participant did not respond to the question). Seven out of eight participants had completed the pre-implementation survey. A free response question asked participants what could be changed to help facilitate using the DCDPO regularly. Seven of eight participants suggested adding depression assessment and screening to required patient care (i.e. adding a “task” in the unit’s EHR or as a part of each patient’s admission assessment). Of four responses to a question about barriers to use of the DCDPO, two cited

that finding the screening tool within the EHR was difficult, while one cited a lack of routine practice completing depression assessments.

Screening and Advocacy Frequency

Post-implementation, 62.5% of participants had screened patients for depression zero times and 50% had advocated for depression treatment or further assessment zero times within the previous two months (see Table 5 and Table 6, respectively).

Depression Assessment Confidence

In post-implementation surveys, the average assessment confidence was 3.1, corresponding to feeling somewhat confident in assessment (see Table 7 for full data set). Due to few responses, few themes were identified in contributing factors for assessment confidence. Two participants cited baseline knowledge as increasing their confidence. One participant expressed confidence in using the DCDPO for depression assessment. Another participant expressed lack of confidence in recognizing nuanced symptoms of depression and confusion regarding various disciplines' responsibilities in assessing for depression.

Depression Screening Confidence

Post-implementation, the average screening confidence was 3.1, corresponding to feeling somewhat confident in screening (see Table 8 for full data set). Five participants explained reasons for a continued lack of confidence in depression screening, with three emergent themes: a need for further education, being unfamiliar with the tool, and not being a part of current practice routine. Two participants cited the DCDPO as user-friendly, increasing confidence in depression screening.

Discussion

This project found that depression screening frequency on this medical oncology unit is low, with 76.9% of nurses saying that they had screened zero patients for depression within the past two months prior to the DCDPO's implementation. This is consistent with previous literature

stating that few healthcare facilities follow guidelines that suggest routine depression screening for oncology patients (Donovan et al., 2019). Advocacy frequency prior to implementation was higher than screening frequency, with 41% of nurses advocating zero times and 76.9% of nurses screening zero times in the past two months. Low screening rates and increased advocacy rates indicate that nurses currently may be assessing depression in a non-standardized manner, which is concerning considering that literature suggests that oncology providers (including nurses) often fail to detect patient distress and depression correctly (Graneck et al., 2021). This may lead to a failure to recognize patients with clinical depression.

Both assessment and screening confidence increased after implementation of the DCDPO, though the increases in confidence means were small. Additionally, screening frequency increased while advocacy frequency decreased. This may suggest that screening helped nurses differentiate between clinical depression cases, anticipating grief from a cancer diagnosis, and demoralization, which was a commonly cited challenge of depression assessment in pre-implementation surveys. An increased ability to recognize clinical depression with standardized screening would be consistent with previous literature (Beauplet et al., 2021).

Pre-Implementation Qualitative Data

Participants primarily attributed reduced depression assessment confidence to perceived difficulty of accurate assessment and to a lack of training and resources. This is consistent with literature attributing lack of nursing confidence in depression recognition and care to lack of formal training and limited implementation of organized strategies for assessment (Graneck et al., 2019). Decreased confidence in depression screening was most frequently attributed to not being a routine component of current practice and a lack of familiarity with depression screening tools. These cited factors suggest a need for increased education about depression screening instruments and their psychometrics, when to utilize screening tools, and implementation of screening into routine practice.

Post-Implementation Qualitative Data

In post-implementation surveys, nurses primarily cited a need for further education and being unfamiliar with the DCDPO as contributing factors for low depression screening confidence, suggesting the need for education about the DCDPO and its utilization. Years of nursing experience was frequently cited as increasing confidence in depression assessment. Considering literature supports that nursing psychological support and judgment are valuable in depression assessment and care within oncology, this may suggest that this is a skill that is developed with experience (Sun et al., 2021). There also may be a need for targeted education for new nurses. In post-implementation surveys, participants suggested that the DCDPO was user-friendly and one said they were confident in their ability to screen patients using the tool. These reports from nursing staff are consistent with previous literature indicating that clinical decision pathways are easy to use (Butow et al., 2021).

Six nurses who provided suggestions about facilitating routine practice of the DCDPO discussed implementing depression screening as a part of routine nursing assessments or admission assessments. Additionally, difficulty locating the PHQ-9 screening in the EHR was most frequently cited as a barrier to using the DCDPO. Therefore, making depression screening a part of standardized nursing assessments on the EHR could facilitate more routine use.

Limitations

These results were likely impacted by confounding factors. Response rate to the post-implementation survey was low ($n = 8$) and could be a reflection of several factors, including confusion with the initial survey, not utilizing the DCDPO, or change in floor acuity and, therefore, nurses' availability. Due to the large difference in pre- and post-test sample size, it was not possible to conduct t-test analysis or other direct mean comparison as initially planned. Second, nurses who felt most confident and familiar with depression assessment and the DCDPO may have completed the surveys, particularly post-implementation surveys.

Conclusion

The DCDPO increased depression assessment and depression screening confidence on a medical oncology unit, though confidence in these results is low considering a low response rate to post-implementation surveys. Due to the low response rate, it is difficult to make a conclusion about the effectiveness of the DCDPO. However, pre-implementation surveys with a strong response rate suggest that depression screening is not a part of routine oncology nursing practice, which aligns with current literature.

Further projects implementing this tool as a part of structured, routine nursing practice may be beneficial to ensure that nurses utilize the DCDPO for assessment and may facilitate increased feedback about efficacy. Additionally, as multiple nurses voiced a need for further education about depression assessment and screening, teaching sessions or modules about the DCDPO or depression screening may be beneficial. If the DCDPO proved to be effective in increasing nursing depression screening and confidence with increased education and use, it could be considered for use on other inpatient oncology units and, possibly, other non-oncologic inpatient units.

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Table 1*Pre-Implementation Screening Frequency*

Frequency of Screenings	Number of Participants	Percentage of Participants
0 times	30	76.9%
1 or 2 times	5	12.8%
3 to 5 times	4	10.3%

Table 2*Pre-Implementation Advocacy Frequency*

Frequency of Advocacy	Number of Participants	Percentage of Participants
0 times	16	41%
1 or 2 times	20	51.3%
3 to 5 times	3	7.7%

Table 3*Pre-Implementation Depression Assessment Confidence*

Assessment Confidence	Number of Participants	Percentage of Participants
1—not at all confident	5	12.8%
2—slightly confident	6	15.4%
3—somewhat confident	17	43.6%
4—fairly confident	10	25.6%
5—fully confident	1	2.6%

Table 4*Pre-Implementation Depression Screening Confidence*

Screening Confidence	Number of Participants	Percentage of Participants
1—not at all confident	7	17.9%
2—slightly confident	9	23.1%
3—somewhat confident	15	38.5%
4—fairly confident	7	17.9%
5—fully confident	1	2.6%

Table 5*Post-Implementation Screening Frequency*

Frequency of Screenings	Number of Participants	Percentage of Participants
0 times	5	62.5%
Fewer than 3 times	3	37.5%
Between 3 and 5 times	0	0%
6 or more times	0	0%

Table 6*Post-Implementation Advocacy Frequency*

Frequency of Advocacy	Number of Participants	Percentage of Participants
0 times	4	50%
Fewer than 3 times	3	37.5%
Between 3 and 5 times	1	12.5%
6 or more times	0	0%

Table 7*Post-Implementation Depression Assessment Confidence*

Assessment Confidence	Number of Participants	Percentage of Participants
1—not at all confident	0	0%
2—slightly confident	2	25%
3—somewhat confident	3	37.5%
4—fairly confident	3	37.5%
5—fully confident	0	0%

Table 8*Post-Implementation Depression Screening Confidence*

Screening Confidence	Number of Participants	Percentage of Participants
1—not at all confident	0	0%
2—slightly confident	1	12.5%
3—somewhat confident	5	62.5%
4—fairly confident	2	25%
5—fully confident	0	0%

Appendix A

The Depression Clinical Decision Pathway for Oncology

