Title:
The Relationship Between Depression Scores and Readmission Rates in CHF Patients

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Rising Stars of Research and Scholarship Invited Student Poster Session 1

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Congestive Heart Failure, Depression Screening and Readmission Rates

References:

Abstract Summary:
After participating in this poster session you will be able to: understand the effect depression has on readmission rates in CHF patients, and understand the importance of educating nurse's on the correct way to administer the tool along with it's significance

Learning Activity:

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<tr>
<th>LEARNING OBJECTIVES</th>
<th>EXPANDED CONTENT OUTLINE</th>
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<tr>
<td>The learner will be able to understand the effect depression has on readmission rates in patient's with congestive heart failure.</td>
<td>The correlation between depression level (mild, moderate or severe) and readmission status (no readmission, 30 day or 60 day) was statistically significant (Spearman Correlation = .549, p&lt;.001) with the more depressed patients more likely to be readmitted. The number of patients who were readmitted with a PHQ 9 score greater than 5 was 28 out of 40.</td>
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<td>The learner will be able to understand if the readmission rates increased when the readmission time was extended from 30 days to 60 days.</td>
<td>An additional 11 patients had a first readmission during days 31 to 60. This increased the overall percent readmitted by an additional 3.5% for a total readmission percentage of 16.1% by 60 days post discharge.</td>
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<td>The learner will be able to understand at what level of PHQ-9 (mild, moderate, or severe depression) did a correlation for readmission exist, if any.</td>
<td>54.7% of the patients (173/316) had a score of “0” for their PHQ-9 during their original admission. It is unclear whether these zeroes reflect no symptoms of depression or whether the scale was not administered. Patient records</td>
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with the PHQ-9 score missing were eliminated, however, since the possible range of scores for the PHQ-9 is 0-20, zeroes are possible and must be retained. Because of this issue, a definitive answer could not be determined. However, as the depression scores went from the category of mild to moderate to severe, there was a progressive increase in the percent of patients readmitted.

| The learner will be able to understand what recommendations to practice, education, policy, and research are suggested based on this research study. | Practice: Patients should be screened for depression upon admission Resources should be established and put in place both during hospitalization and after discharge. Communicate across the continuum of care The primary care provider should validate the preliminary findings of depression upon follow-up to the clinic after discharge and be informed of resources provided to patient. Education Educate nursing and patient’s on the importance of screening and its benefit to the patient, the perception of the behaviors of a patient with depression, and the correct way to administer the tool without bias. Policy A list of required resources will be applied to each patient based on their depression score prior to discharge Research Repeat the study after nurse’s education is complete to determine if PDH-Q zero scores diminish and/or if there is a different relationship between depression scores and readmission rates. Evaluate what interventions are effective in managing depression when a patient tests positive for depression at the mild/moderate PHQ-9 score (5-14) and the severe PHQ-9 score (>14). |

**Abstract Text:**

There are between five and six million people in the United States who suffer from congestive heart failure (CHF). Of those as many as 60% suffer from depression which leads to an increase in the morbidity and mortality rate. A decline in patient condition causes an increase in acute care facility usage. The focus in healthcare is shifting toward a state of wellness and prevention causing us to better manage disease to promote improved quality of life. This shift requires us to identify where best to utilize our resources to allow for the best care for the most patients.
The purpose of this study was to identify the effect depression has on readmission rates for patients with congestive heart failure in the acute care facility. The process to improve clinical outcomes and reduce morbidity is a two-step process: screen and intervene. By practicing the screening process this study aims to identify the following:

- Determine if a significant correlation exists among CHF patients between a positive depression screening on the PHQ-9 and an increased readmission rate to an acute care facility.
- Were CHF patients who have a positive depression screening more likely to be readmitted to the hospital within 30 days than patients who do not have a positive depression screening?
- Does the readmission rate increase when extended to 60 days?
- The PHQ-9 categorizes the scores into mild, moderate, or severe depression. At which level of depression does a correlation for readmission exist, if any.

A descriptive, quantitative, retrospective chart review was completed over a six month period including all patients who were admitted with a primary or secondary diagnosis of CHF. The review included the depression screening score that was completed on admission to the acute care facility and demographics information. Each patient was tracked by patient identification number to monitor for readmission within 30 days and 60 days.

Analysis

Using the scoring guide for the PHQ-9, of the 316 patients included into the study: 262(82.9%) had a score of 0-4 (minimal depression), 51 (16.1%) had a score of 5-14 (mild/moderate depression), and 3 (0.9%) had a score of 15-27 (severe depression) (see Table 1). The total number of patients who were readmitted as inpatient were 51 (16.1%). Looking at only the first readmission, of the 51 patients who were readmitted, 40 (78.43%) were readmitted within the first 30 days and 11 (21.57%) were readmitted between 301 to -60 days post discharge.

After the initial research data was obtained further analysis was indicated. Many patients were not being admitted to the hospital but were still seeking care in the Emergency Department within 30 days of discharge from the acute care facility. This increased the number of resources needed to care for these patients. Further analysis was indicated to determine if a difference exists between mean score depression screening in patients who were readmitted to the hospital, not readmitted to the hospital, and admitted to the emergency department using the PHQ-9 (1990) in patients with CHF.

Limitations to this study related to the high percent of patients who had a depression screening score of 0 (N=173 of 316, 55%). Furthermore, the PHQ 9 tool identified that a PHQ-9 (1990) score of 0-4 is considered to be minimal or no depression. The overall N size for this study that had a depression score of 0-4 was 262 out of 316 (83%). This was inconsistent with current research that suggests that as many as 60% of patients with CHF suffer from depression and 21% suffer from clinically significant depression (Rutledge, et. al., 2006). This data suggests that the screening completed by nursing was ineffective at the time of admission. An understanding of why the depression screening was ineffective is unknown at this time. Possible reasons include: lack of understanding of importance of depression screening, nursing answers questions based on what they observe and score accordingly, patients are less willing to answer accurately when the tool is administered verbally, the body language or tone from nursing while administering tool influences the patients response.

Additionally, many charts were excluded from the study because the lack of completion of the depression screening tool upon admission to the hospital. This also suggested a lack of understanding of the importance of the tool by nursing or the unwillingness of nurses to complete the tool accurately.

Recommendations
Patients should be screened for depression at key points of their care, which includes admission to an acute care facility. Although the question remains unanswered at what point of hospitalization is the most beneficial and accurate point to screen for depression, it is understood that depression screening is an important step in the planning of care while in the hospital. Developing a process to manage patients who scored positively on the depression screening tool is necessary to improve patient outcomes and reduce readmission to the hospital. This process should include care of the patient across the continuum. The patient should have resources available to better manage their depression at any point in their care. A communication vector between points of care also needs to be established. If a patient is identified as having a positive depression screening score while in the acute care facility, then interventions need to be started before they are discharged. Severe depression must be handled emergently. A mental health provider must be consulted to evaluate the patient for risk of harm and appropriate safety measures need to be in place.

The primary care provider needs to be included in the plan of care. The primary care provider should validate the preliminary findings of depression upon follow-up to the clinic after discharge. Subsequent follow-up screening should occur at intervals, annually, or if the patient demonstrates symptoms. The primary care provider should also be informed of what interventions were recommended to the patient during hospitalization.

It is appropriate for nurses to complete the depression screening; however, nurses must be appropriately educated on how to complete the depression screening effectively. After effective screening is completed, nurses must have the support and resources to facilitate the intervention process based on patient need and should start immediately while the patient is hospitalized.

Possible recommendations to education include the importance of screening and its benefit to the patient, the perception of the behaviors of a patient with depression, and the correct way to administer the tool without bias.

Nursing education is a vital part of the depression screening process. It is important to determine how nurses perceive screening for depression. Once an understanding of how nurses perceive depressed patients, an educational plan can be developed based on gaps in nursing perception.

Patients require education on the importance of why the screening should be completed and why it is important to answer the questions honestly. The also should be educated on how this can improve their quality of life. Patients may withhold answers because of the fear that they may be judged or other similar reasons. Depression often has a negative connotation and may have other sensitivities based on the patients culture. These patients may be less likely to express their true feelings.

Recommendation to policy includes establishing resources and interventions prior to discharge. Policy should require that a patient who has a positive depression not be discharged until resources are established. A list of required resources will be applied to corresponding depression scores of mild, moderate, and severe.

Patients should have an established contact person in the outpatient setting prior to discharge. In addition to their primary care provider, patients also need to have a social worker contact established in the outpatient setting. It should be hospital policy for an outpatient social worker established along with the first appointment made for the patient to follow up.

Screening for depression often requires the use of more resources. This is taxing on the healthcare institution. Recommendation to policy should reflect the reimbursement for screening along with follow up care. Depression should be included on the patient’s problem list as a billable diagnosis.

Summary
This research study rejected the null hypothesis that there was no significant difference in readmission rates (dependent) based on their depression score (independent). It provided data suggesting that there was a relationship between depression and readmission rates may allow us to allocate the appropriate resources to help these patients cope effectively. This effective coping may result in decreased morbidity, prolonged length of life, improved quality of life, and healthcare cost reduction.

This research was a study to ascertain the association that depression has on readmission rates in the CHF population in an acute care facility. With the current state of healthcare changing it is more important now than ever to utilize our resources effectively. This study may further help us to identify cost effective interventions. The effective utilization of depression screening may be expanded to other disease processes to help our community as a whole. Information gathered from this data could also support the development of a depression care team for those who screen positive for depression.