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Mental Health Education for Acute Cardiac Patients

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Mental Health Education for Acute Cardiac Care

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Capstone Defense

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Background and Significance

The bi-directional relationship between cardiac disease and mental health is well documented. Patients with a history of mental health disorders are susceptible for cardiac disorders (Bremner et al., 2018). In the reverse, patients experiencing cardiac disorders are susceptible for mental health dysfunction such as depression, anxiety, panic disorder, and stress (Celano et al., 2016; Huffman et al., 2014). While this relationship may be well known to medical providers, many patients do not receive sufficient assessment or education on the risk of mental health disruption (Collopy et al., 2021). This lack of awareness following an acute hospitalization for cardiac disease can lead to complications such as emotional distress, decreased health outcomes, and financial burdens. Patients and their caregivers may report concerns of returning to exercise or daily activities due to fear of further injury or initiating another cardiac event (Boyce & Goossens, 2017). Mental health disorders can limit participation while the lack of activity can impair mental function, causing a cycle which delays healing, exacerbates comorbidities, and increases healthcare costs.

Studies have shown that an inter-professional team is ideal to provide quality care, of which occupational therapy can be an effective component (Celano et al., 2016; Huffman et al., 2014). The Occupational Therapy Practice Framework states, “Occupational therapists are uniquely capable of addressing mental dysfunction through the use of occupation and participation” (“Occupational Therapy Practice Framework,” 2020). The American Occupational Therapy Association (AOTA) encourages occupational therapists (OTs) to address patients’ mental health needs even in non-psychiatric settings. AOTA specifically affirms that OTs in acute hospital settings can, “address clients’ social and emotional needs… establish plan to assist with caregiver support, everyday living, and coping with anxiety and depressions…promote participation to avoid delirium, mitigate trauma and stress, and enhance

health and wellbeing related to the impact of injury and recovery" (*Mental & Behavioral Health in Non-Psychiatric Settings | AOTA*, n.d.).

Need Assessment and Gap Statement

As the literature supports that mental health education is beneficial to cardiac patients, a needs assessment was conducted to determine if acute health care providers were incorporating these services into patient care. Trident Medical Center (TMC) in North Charleston, South Carolina was specifically chosen as a sample site due to the convenience factor of being the investigating therapist's employment site. Oral interviews indicated that the OTs at TMC were not conducting mental health screening or providing education. To determine if OTs in other acute hospitals were providing these services, a survey was created via REDCap and posted on the AOTA Commun-OT page. Out of the 10 responses, all OTs reported having patients demonstrate mental health disruption, but very few provided treatment or education. Only 20% of participants reported conducting mental health screens, and 40% reported providing mental health education. While 100% of the OTs reported an interest in providing mental health services, the main barriers reported were lack of knowledge, time restraints, concerns about billing, productivity requirements, lack of other mental health providers, lack of physician consults.

Oral interviews were also conducted with TMC nursing staff from three cardiac units. Intensive Care Unit (ICU) nurses, where patients are in the most critical condition, reported that their patients demonstrate mental health disruption, but are too medically unstable to attend to or retain education. Telemetry nurses, whose patients are generally stable and ambulatory, report having too many patients to educate and who also discharge too quickly. Progressive Care Unit (PCU) nurses were the only staff to report providing mental health education, but said it was informal and brief. These patients are sufficiently medically fragile to require close monitoring, but stable enough to engage in education. Per the Lead Cardiac Nursing

Coordinator, the only formal mental health education is provided to surgical patients in a discharge education packet. This packet includes a single paragraph warning patients on potential mental health disruption, encouraging them to engage in a daily routine, and listing how to contact their medical provider with concerns.

The final component of the needs assessment was to determine if cardiac patients would find mental health services beneficial. At that time, the contract agreement with TMC did not allow for cardiac patients to be interviewed. Instead, general observations were made from an online Facebook cardiac support group. On this forum, many individuals mentioned symptoms of anxiety, depression, and post-traumatic stress following their cardiac diagnosis or procedure. Patients frequently posted about being unsure if physical symptoms were from their mental health or cardiac conditions, i.e., is a racing heartbeat caused from anxiety or from a cardiac arrhythmia. Other patient complaints included profound fatigue, weight gain, and inability to return to daily activities or hobbies.

Based on the outcomes from this needs assessment, it can be deduced that cardiac patients are experiencing negative health outcomes from mental health disruption/disorders, and would benefit from assessment and education. OTs are qualified to conduct mental health screens, identify areas of concern, and form action plans to re-introduce patients to activity that is safe and purposeful. This holistic approach to the mind-body connection of cardiac patients can improve patient outcomes and reduce financial burdens. Despite these benefits, many acute OTs are not incorporating mental health into their treatment sessions, and there is a lack of scholarly evidence on its use. Research is needed to support this service and justify its incorporation into acute OT's services and protocols.

Conceptual Framework

The Do Live Well framework is an appropriate tool to reflect on the mental health disruption of acute cardiac patients. This framework was developed in 2015 by Dr. Sandra Moll from McMaster University in Hamilton, Ontario. The key message of the framework is, "What you do everyday matters" (*What Is DLW?*, n.d.). Do Live Well states that for patients to have ideal health and wellness outcomes, they need a variety of daily experiences which are meaningful, chosen, and with positive social context. It is vital to educate cardiac patients on the mental health benefits which occur if they engage in daily activities of daily living (ADL) or instrumental activities of daily living (IADL) upon their return home.

Purpose Statement

This project seeks to encourage occupational therapy's incorporation of mental health services into acute care treatment by conducting patient education sessions on the awareness and management of mental health disruption/disorder associated with cardiac disease.

Methods

Design

Medical University of South Carolina's (MUSC) approved the initiation of a quality improvement project at TMC (see Appendix A). Using a mixed methods design, this project consisted of a patient education session followed by a quantitative survey with availability for comments. In addition, TMC employees were interviewed on the usefulness of the education sessions and its incorporation into OT treatment sessions.

Participants

Participants were initially eligible based on the condition of being a patient at TMC with a primary diagnosis of a cardiac related illness. Participants were excluded if hard of hearing,

cognitively impaired (such as dementia or delirium), or medically unstable. Due to these requirements, patient participants were selected from the TMC Telemetry and Progressive Care Units. Following difficulties with recruitment due to a low hospital census, eligibility was expanded to include family members of cardiac patients.

Procedures

Per the agreement with TMC and the MUSC Post Professional Occupational Therapy Doctoral program (PPOTD), the therapist conducting the sessions identified themself as a MUSC student performing a doctoral capstone project. All participants signed a waiver expressing the following:

I _____ agree to participate in the capstone project for Allison Blackburn, OTR/L. I understand that this session is voluntary, and I will not be charged nor receive compensation for this service. I understand that this is an academic quality improvement project and none of my personal information will be shared with the public.

The therapist wore clothing with MUSC's logo and wore a badge identifying them as a MUSC student/employee. As the sessions were not a part of Trident's medical care, patients were not billed and no medical notes were submitted. The therapist completed all education sessions off the clock & received no compensation for the sessions.

Content

Participants were given an education packet and provided with oral instruction on the risk and management of mental health dysfunction/disorder related to cardiac conditions (See Appendix C). The packet consisted of the following:

Page 1: Explanation on the relationship between cardiac and mental health

Page 2: Resources and contact information on medical providers or organizations specializing in mental health services

Page 3-4: Copies of Patient Health Questionnaire (PHQ-9) and General Anxiety Disorder (GAD 7) screening tools and explanation of its use

Page 5: Explanation of how ADL/IADL help manage mental health

Page 6: Resources and references

Effort was made to use simple terms/explanations in the packet due to the potential for patients' low reading levels and abilities. The PHQ 9 and GAD 7 were selected for their widespread use in multiple practice settings and positive psychometric properties. Additionally, these screening tools do not require pre-approval and are free to reproduce.

Timeline

- January 1-19th: Finalized handouts and content
- January 17th: Met with PCU & rehab staff to finalize plans and procedures
- February 7th: First Capstone group session attempted
- February 12h: Second Capstone group session attempted
- February-March: Completion of individual patient education sessions
- March-April: Analysis of survey results
- April 12rd: Capstone Defense presentation
- April: TMC staff presentation and training

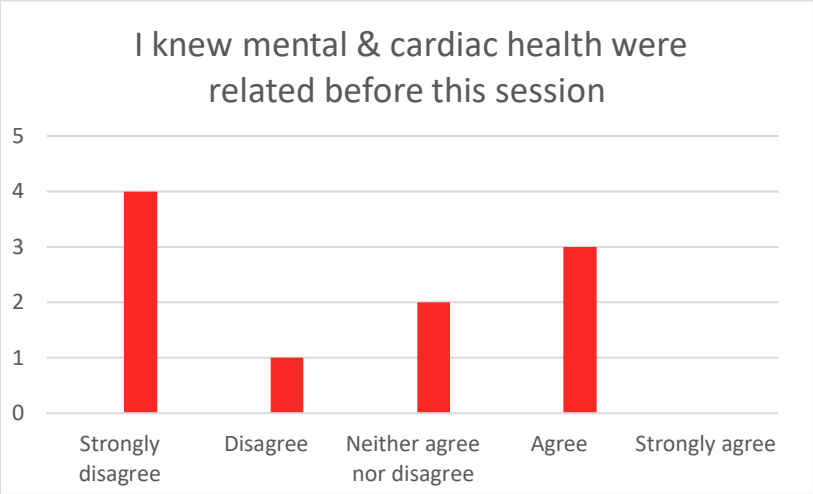
Results

Following the education packet, participants completed a five-question survey using a five-point Likert scale. The survey questions were as follows:

1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.

1. I knew mental & cardiac health were related before this session.
2. This session helped me better understand this connection.
3. This session offered good strategies to help maintain mood/emotions.
4. I know how to get help if I have questions/concerns about my mental health.
5. This session is helpful for cardiac patients.

Table 1.



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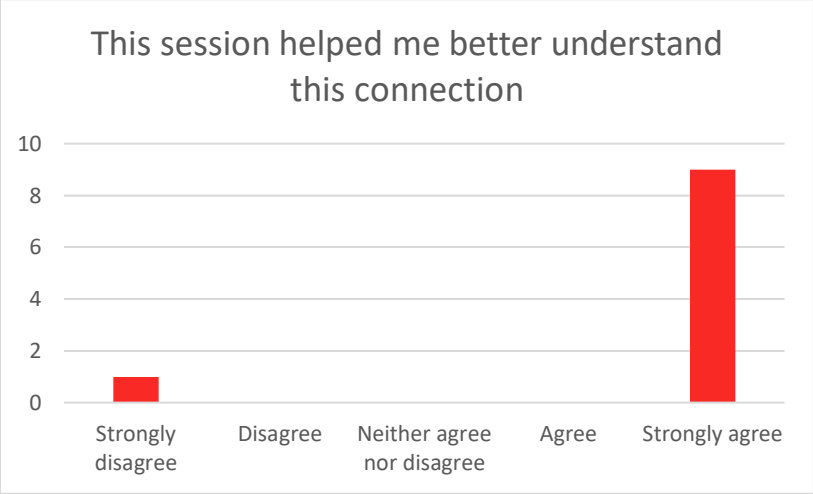

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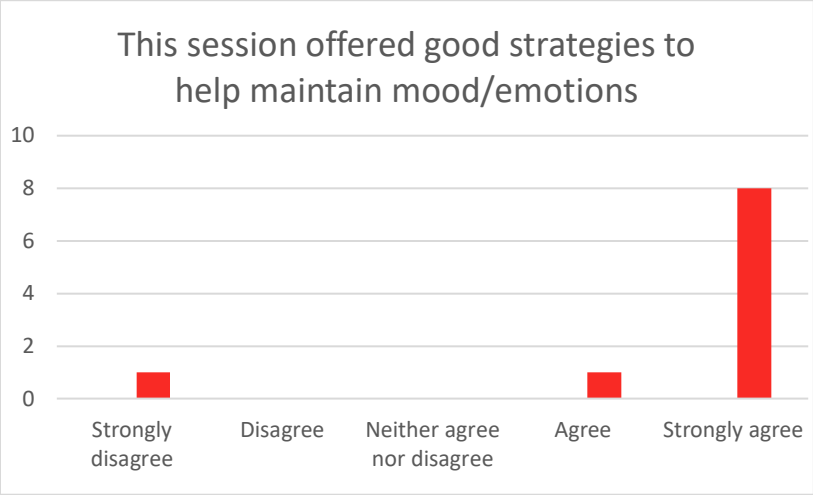

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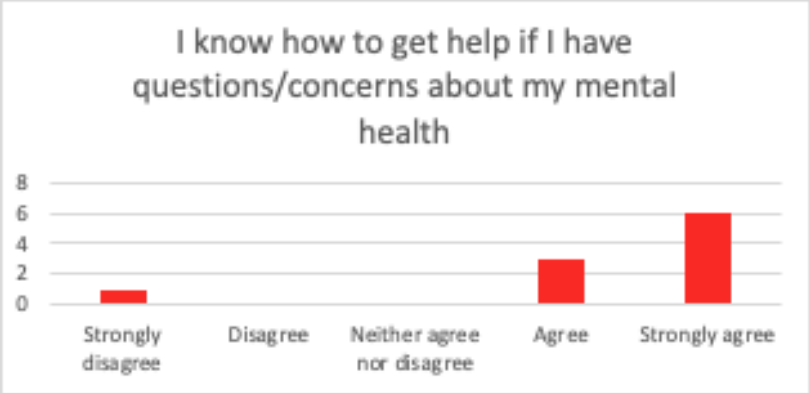

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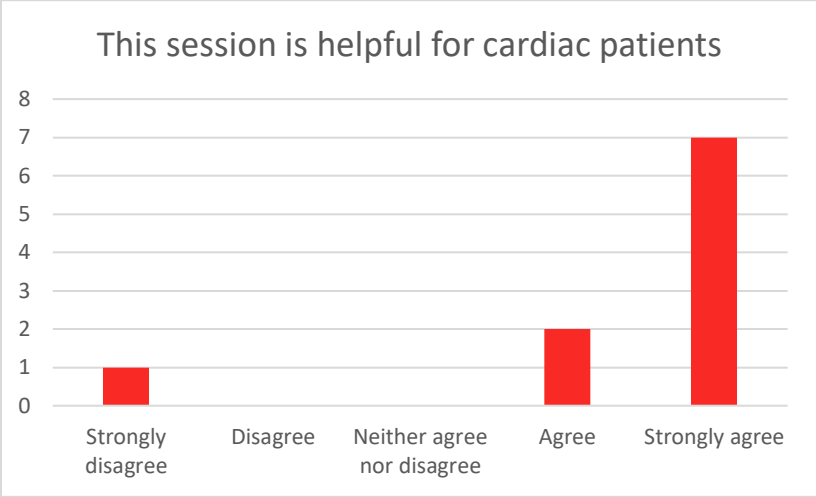

Of the ten responses, nine participants indicated they had limited knowledge on the connection between mental and cardiac health. They also indicated the education packet provided useful information and would be helpful for other cardiac patients. One participant indicated that they were already aware of the connection, and strongly disagreed that the packet was helpful. It is suspected that the participant did not fully read the questions to answer them properly, as the participant initially attempted to fill out the wrong form. The participant did not appear to be engaged in the education session, so it may be assumed the participant's answers may still reflect their opinion.

Participants were given the opportunity to provide optional feedback. The comments are as follows:

- "No one talked to us about this."
- "Very Helpful. I didn't know, this is brand new to me."
- "This is a good idea and can be very helpful in so many positive ways. Thank you so much."
- "The speaker was very helpful in making us and family aware of the changes that we will be going through."
- "This session was very helpful. In case that information is needed, it's provided."

In addition to patient surveys, feedback was received via oral interviews with TMC staff. Management has been very supportive of the project, and is encouraged by the survey findings. Discussions are being held to incorporate the packet into treatment sessions and to provide staff training sessions.

Limitations

There were several limitations which affected this quality improvement project. Initially, the proposal was to conduct group therapy sessions for cardiac patients in the PCU unit at TMC. Prior to the group sessions, however, many of the cardiac nurses, managers, and a surgeon terminated their employment at TMC or changed unit assignments. This caused limited staff support outside of TMC's therapy department. The lack of nursing staff to help identify, recruit and transport patients caused increased time and management burdens which hindered group sessions. In addition, the departure of a cardiothoracic surgeon along with a generally low hospital census caused a shortage of potential participants.

Despite these obstacles, two group sessions were attempted. The first session occurred on a Tuesday at 2:30PM and had four potential participants. All potential participants declined to participate, however, citing fatigue or gastrointestinal (GI) distress. The second attempt was conducted on a Sunday, in hopes that a weekend day would be less busy and more patients would be inclined to participate. The two potential participants also declined, again citing fatigue and GI distress. Due to the lack of staff support and limited participation by patients, group sessions were terminated and replaced with individual education sessions.

Individual sessions were more successful, but still had limitations. The low hospital census caused a participant shortage. Sessions were intentionally kept to short durations (10-20 min) due to frequent interruptions from other medical personnel and patient fatigue. Despite efforts to use simple terminology and language, some patients demonstrated reading difficulty,

whether due to the lack of eyewear, fatigue, or low reading ability. To overcome this, patients were read the education packet and the survey questions as needed.

Potential Impacts

While ten participants are a small sample size, it is encouraging that 90% of participants found the education packet useful and would encourage sharing it with other cardiac patients. The website https://asblack2.wixsite.com/cardiac-occupational was made to help share this packet to the public (see Appendix B). This quality improvement project helps justify the incorporation of mental health services into acute cardiac services. While this capstone project conducted formal education sessions for mental health awareness, it is also possible to include this education informally during traditional OT sessions. Providing this education can help cardiac patients manage their mental health needs while still admitted in the hospital and plan for potential disruptions following discharge. By empowering patients to recognize and manage their mental health needs, it is likely that they will have better health outcomes, better overall satisfaction with their care, and less follow-up medical visits.

It is important to note, that while group therapy sessions were not successful for this particular project, it does not signify that OT group sessions should not be attempted in an acute care setting. The main causes of the group therapy failures were the lack of inter-disciplinary staff support and the medical instability of patient participants. Acute OTs who are considering group sessions should have sufficient nursing staff assistance to help with patient recruitment and transport. Meeting times should consider staff rounding times, room availability, and patient fatigue levels. Additionally, targeted patient populations will need to be medically stable to

tolerate and agree to being outside of their room. While group therapy sessions do require extra time and organization, the patients' mental health benefits may justify the extra effort.

While this project is specific to acute cardiac patients, it can be generalized to any medical population. Hospitalizations for any reason or duration can be difficult experiences for the individual and their families, and especially after traumatic or neurological injuries. These patients would also benefit from the addition of mental health education in their OT services. While there is not a specific OT billing code for mental health education, OTs can link mental health to ADL/IADL and bill under self-care codes. Two examples are to explain how self-care routines help promote mental health while a patient is brushing their teeth, or having a patient perform progressive muscle relaxation to improve sleep quality. By linking mental health to a patient's occupational performance, OTs are providing quality care which is specific and unique to our profession.

This project raises awareness on the scope of OT services. Partly due to the global pandemic, there has been greater emphasis and focus on mental health and wellness. Healthcare now recognizes the symbiotic relationship between mental health and physical health outcomes. Despite being qualified to conduct mental health services, acute care occupational therapists are frequently limited to addressing mobility and ADL tasks. By expanding our services, occupational therapists will raise awareness for the profession and assert their role on the medical team. OTs play a vital role in addressing patients' mental and overall health needs, and are an important part of the medical profession.

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Appendix A

Quality Improvement Project Evaluation

MUSC
Medical University of South Carolina

Quality Improvement/Program Evaluation

Self-Certification Tool

Sponsored by the MUSC Institutional Review Board

Date: 07/20/2022

Project Title: Assessing Mental Health Needs in Acute Cardiac Care

To: Allison Blackburn

Based on your responses to the IRB QI/Program Evaluation Self-Certification Tool, in which:

1. The project will not involve testing an experimental drug or device.
2. The project has not received federal funding to be conducted as human subjects research.
3. The project is not a multi-site project.
4. The primary intent of the project is not to conduct a systematic investigation designed to contribute to generalizable knowledge.
5. The results of the project will be published, presented or disseminated outside MUSC.
6. The project is intended to improve or evaluate the practice or process within a clinic or program at MUSC.

This project is determined to be quality improvement and is therefore not subject to IRB review or approval. If the project changes in any way, please repeat the use of this tool to determine if the project continues to be quality improvement.

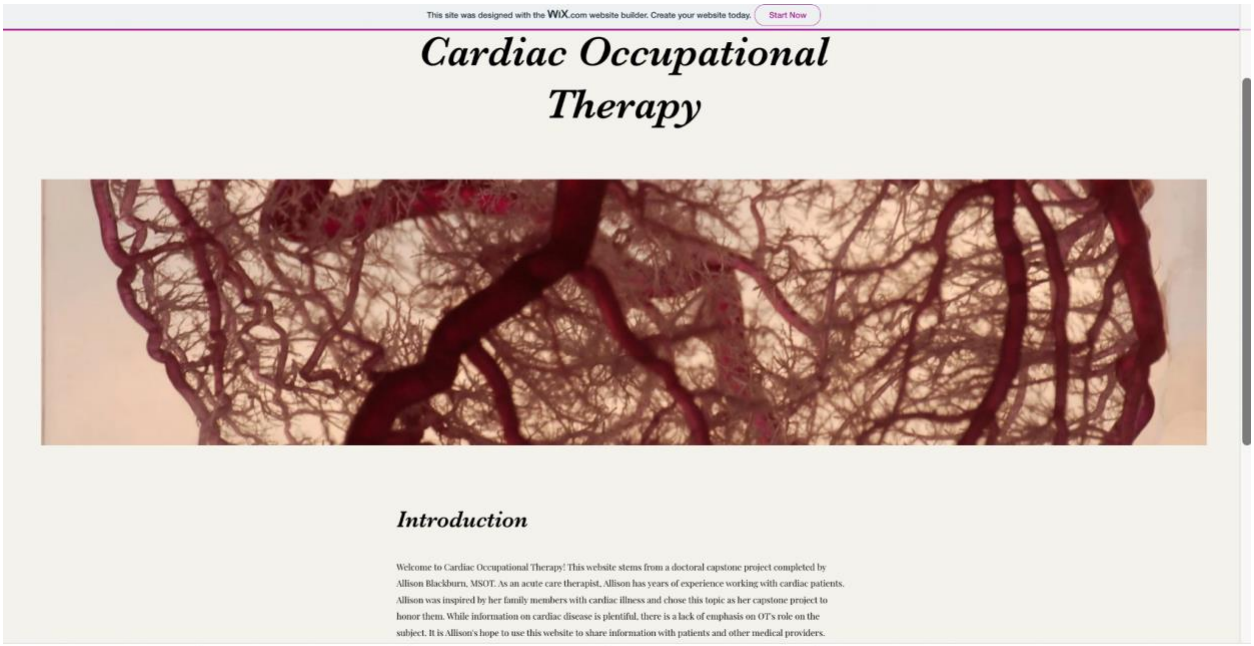
If you indicated intent to publish your quality improvement endeavor, it is strongly suggested to use the SQUIRE guidelines when writing up this project for publication.

Please retain a copy of this Self-Certification for your records. The determinations from this tool are subject to audit by the University Compliance Office.

If you have any questions, please contact: The MUSC IRB 843.792.4148.

Appendix B

Website Home Page

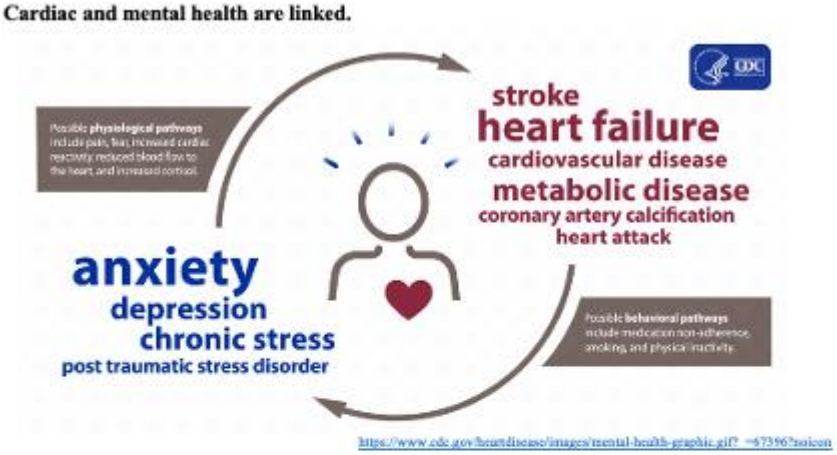


Appendix C

Patient Education Packet

Heart and Mind Health

Cardiac and mental health are linked.



https://www.cdc.gov/heartdisease/images/mental-health-graphic.gif?_=67396?noicon

Depression, anxiety, stress, PTSD, and other mental health concerns can:

- Increase heart rate
- Increase blood pressure
- Reduce blood flow
- Increase stress hormones
- Reduce physical activity
- Promote poor eating habits or smoking

This can increase your risk for heart disease. (CDC, 2020)

https://firstedition.firstaid.ca/blog/2018/05/07/how-mental-health-is-important-for-your-heart-health-too/

Heart disease can also affect your mood/emotions.
This can be affected by:

- Pain
- Fear of death/disability
- Financial concerns
- Loss of independence
- Difficulty adjusting to new "normal"
- Changes in routine (CDC,2020)

These are commonly used **screening tools** to help identify concerns with anxiety or depression. They do **NOT** diagnose mental health disorders. This is just to make you aware of questions your doctor may ask.

If you are showing signs/symptoms of a mental health disorder or have questions/concerns, please contact the follow:

1. Reach out to your **doctor or other medical provider**

2. **Trident Low Country Transitions:**
   https://tridenthealthsystem.com/specialties/behavioral-health/

   - Outpatient clinic (843) 847-3080. 9225 University Blvd., Suite C Charleston, SC 29406
   - Inpatient Clinic: 843-847-3010. 9330 Medical Plaza Drive, Charleston, SC 29406.

3. **Charleston Dorchester Mental Health Center**: Assessment/Mobile Crisis
   Ph: Charleston County 843-414-2350, 1-800-613-8379
   Assessment/Mobile Crisis (A/MC) is a 24/7 psychiatric assessment team serving both Charleston and Dorchester Counties, diverting individuals from local emergency departments, when clinically appropriate, by linking them more directly to the appropriate treatment. A/MC is available to the community 365 days a year to triage psychiatric needs and connect individuals to treatment resources.

4. **Suicide crisis hotline**: #988

This is a screen, not a diagnosis

Patient Health Questionnaire and General Anxiety Disorder (PHQ-9 and GAD-7)

Date_____ Patient Name:_____ Date of Birth: _____

Over the last 2 weeks, how often have you been bothered by any of the following problems? Please circle your answers.

PHQ-9	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things.	0	1	2	3
2. Feeling down, depressed, or hopeless.	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much.	0	1	2	3
4. Feeling tired or having little energy.	0	1	2	3
5. Poor appetite or overeating.	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television.	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way.	0	1	2	3
Add the score for each column				

Total Score (add your column scores): _____

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people? (Circle one)

Not difficult at all **Somewhat difficult** **Very Difficult** **Extremely Difficult**

Over the last 2 weeks, how often have you been bothered by any of the following problems? Please circle your answers.

GAD-7	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge.	0	1	2	3
2. Not being able to stop or control worrying.	0	1	2	3
3. Worrying too much about different things.	0	1	2	3
4. Trouble relaxing.	0	1	2	3
5. Being so restless that it's hard to sit still.	0	1	2	3
6. Becoming easily annoyed or irritable.	0	1	2	3
7. Feeling afraid as if something awful might happen.	0	1	2	3
Add the score for each column				

Total Score (add your column scores): _____

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people? (Circle one)

Not difficult at all **Somewhat difficult** **Very Difficult** **Extremely Difficult**

UHS Rev 4/2020

Scoring notes.

- ***PHQ-9 Depression Severity***

Scores represent: **0-5 = mild 6-10 = moderate 11-15 = moderately severe 16-20 = severe depression**

- ***GAD-7 Anxiety Severity.***

This is calculated by assigning scores of 0, 1, 2, and 3, to the response categories of "not at all," "several days," "more than half the days," and "nearly every day," respectively. GAD-7 total score for the seven items ranges from 0 to 21.

Scores represent: **0-5 mild 6-10 moderate 11-15 moderately severe anxiety 15-21 severe anxiety.**

This is a screening tool, not a diagnosis. Talk to your medical provider with concerns.

Keeping your daily routines can help with your mood/emotions!

- Daily behaviors give comfort, opportunities for success, and promote confidence
- Lack of self-care can be a sign of mood problems

Behaviors/routines may need to change due to medical necessity. You can change the way you do things, but stay active!

DAILY ACCOMPLISHMENTS

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
6:00 AM							
7:00 AM							
8:00 AM							
9:00 AM							
10:00 AM							
11:00 AM							
12 NOON							
1:00 PM							
2:00 PM							
3:00 PM							
4:00 PM							
5:00 PM							
6:00 PM							
7:00 PM							
8:00 PM							
9:00 PM							
10:00 PM							
11:00 PM							

Mark what activities you did. You can color coordinate. Do you need more rest breaks between tasks? Should tasks be done seated? How did you feel afterwards?

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