Health promotion with elders at risk for depression: A quality improvement project

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Introduction

Problem Description

A large urban area clinic serves a population base of older adults aged 65 and older who are Medicare insured. The clinic utilizes a home visit model whereby primary care providers visit medically complex clients within their home environment. The clinic serves elderly clients who live with multiple medical conditions, experience possible mental health concerns, and may cope with social isolation and loneliness as well. There is currently no framework in place to address the prevention of clinical depression for these clients, many of who carry multiple risk factors for the development of depression. Without intervention, these clients are at risk for further deterioration of their mental health as well as the worsening of an already fragile physical health status. Leadership would like to implement a framework to prevent depression and to promote optimal functioning in their elderly clients. Non-licensed, support staff address the needs of less acute clients as well as promote engagement in clinic services for lower acuity clients.

Prevention of late-life depression and suicide is a growing global health priority. With the global population increasing, the number of older adults are expected to at least double by 2050 (UnitedNations, 2015). Socioeconomic status, disability, and social isolation contribute to the development and worsening of depressive episodes. Geriatric depression corresponds with differences in both prevalence and symptomatology. Prevalence is maintained with age where individuals aged 75 years or older have a prevalence of 7.2% for major depression and 17.1% for depressive disorders (Luppa et al., 2012). Finally, the Centers for Medicare and Medicaid Services and the U.S. Preventive Services Task Force recommends depression screenings occur at least annually for the general adult population (Goetzel et al., 2011; Siu, 2016). However, some estimates report only half of Americans receive recommended care, with the gap being even higher for older adults, minorities, and low-income Americans (Krist et al., 2012).

Available Knowledge

The Geriatric Depression Scale (GDS) is considered the gold standard depression-screening tool for use in older adults. There are multiple versions available. Question format is yes/no and excludes questions regarding somatic symptoms, which can be confounding variables in the assessment of comorbid depression and physical illness (Friedman, Heisel, & Delavan, 2005). The tool performs well in both the oldest-old (age 75 and older) and young-old (age 60-74 years) patients (Cheng et al., 2010).

The following are interventions that are known to be effective for the prevention and treatment of depression in older adults.

The Friendship Line

Research shows that social isolation is a risk factor for depression, self-harm, and self-neglect. A telephone-befriending program can benefit older adults combating social isolation and prevent further mental health decline. Social isolation and loneliness are known risk factors for all-cause mortality and dementia (Olaya et al., 2017; Sutin, Stephan, Luchetti, & Terraciano, 2018). Further, social isolation is significantly associated with increased risk for cardiovascular disease, suicidal ideation, and suicide attempt. Supportive social networks are known to protect against depression (Chen & Schulz, 2016; Leigh-Hunt et al., 2017; Santini et al., 2016). A recent systematic review found social isolation is lessened, in particular, by telephone befriending programs (Chen & Schulz, 2016).

Mindfulness Breathing Exercises

Controlled breathing techniques can benefit older adults with multiple chronic health conditions, including depression and chronic obstructive pulmonary disease (COPD). Pranayama, or the art of controlled breathing, is associated with improved exercise tolerance,

dyspnea, and mobility in COPD patients (Kaminsky et al., 2017; Valenza et al., 2014). Further, older adult patients with COPD are known to experience a long-lasting reduction in anxiety and depressive symptoms after learning pranayama in the hospital setting from lay personnel (Kaminsky et al., 2017).

Walking activity

Walking can help older adults improve affective symptoms, reduce social isolation, and improve overall physical health status. Several studies indicate that physical activity is a protective factor against worsening depressive episodes. Uemura et al. (2017) report that light physical exercise and community engagement – attending a community meeting or community center activities – are associated with a lower risk of depression in older adults. Research has also shown a positive relationship between physical activity, depression, and overall change in quality of life (Schuch et al., 2016). Benefits are retained regardless of exercise intensity level or group versus individual activities (de Vries et al., 2012).

Rationale

Foundational to this project work was the theory of health promotion. Briefly, health promotion aims to enable people to strive for optimal health by encouraging people to take control over and improve their overall wellbeing (Snelling, 2014). Individuals gain strength by learning coping skills and gaining self-esteem; and in combination with reduced structural barriers to health, better health outcomes are achieved (Cattan & Tilford, 2006). By utilizing a health promotion model to manage depression, patients may gain access to skills and confidence in their ability to recover from and prevent the worsening of depression.

The Healthy IDEAS (HIDEAS) program is a multi-component, home-based intervention that aims to address depression prevention and management in at-risk, homebound older adults.

Positive outcomes have been reported including a reduction in depressive symptom severity (Choi, Sirey, & Bruce, 2013). This model is proprietary and not available for public use; however, elements from the model were used as a template. Health promotion theory and the HIDEAS program template, in combination with evidence the literature provides, were utilized to recommend a series of evidence-based tools to prevent depression in at risk elders.

The Institute for Healthcare Improvement's Model for Improvement was utilized for this project (Institute for Healthcare Improvement, 2018). Plan-Do-Study-Act (PDSA) cycles were conducted every two weeks. Results from each cycle impacted planning and activity for the next cycle.

Specific Aims

To prevent the progression to clinical depression in a population of at risk older adults.

Methods

Context

The clinic provides services across a large, urban area in Oregon. A Psychiatric Mental Health Nurse Practitioner (PMHNP) utilizes a consultation model to assess clients throughout the area. The PMHNP monitors high-risk, acute psychiatric patients. Less acute clients rely on primary care to notice changes in mental status. Generally, a provider sees less acute clients once every 4-6 months. Ambassadors bridge the gap between provider appointments by providing social visits to less acute clients; and report any relevant changes in medical or mental health status to registered nurse case managers within the agency.

Intervention

The intervention included a rollout of a toolkit of evidence-based health promotion activities. One ambassador was included in the intervention. They offered the intervention at the

time of service, within the setting of a home visit. The toolkit included the following: breathing exercises for anxiety, offering to go on a walk together, and a loneliness resource – The Friendship Line hotline. Pre-intervention activities involved a training session for the ambassador. The training session included a review of each health promotion toolkit component as well as training on the Geriatric Depression Scale (GDS-15) screening tool. A review of how to select clients for the intervention was completed as well. An initial goal for participant inclusion was set to five patients.

The intervention began with ambassadors completing the GDS-15 with each participant to obtain a baseline measure for depression. Depending on participant main concerns, ambassadors then offered a component of the toolkit to the patient. For the breathing exercise, ambassadors completed 1-2 rounds together. For the walking activity, patients were screened for fall risk prior to walking. A short walk lasting 5-10 minutes was completed either at the time of visit or follow-up. For the Friendship Line, the ambassador provided the phone number resource and offered to make the first call together. Two to four weeks later, an in-person visit or follow-up phone call was completed. At follow up, the GDS-15 was completed again; and the ambassador reviewed whether the client utilized the tools since their last meeting, offered additional support, clarification, and positive reinforcement, and scheduled another follow-up appointment 2-4 weeks after that. The cycle repeated for 2 months, completing the GDS-15 at each visit, and assessing whether the patient utilized the toolkit components.

Study of the interventions

To measure the intervention's success, quantitative data in the form of GDS scores were tracked over time via electronic health record review. At ambassador biweekly check-ins, participant acceptance of the intervention was assessed and documented as well. Qualitative data

was collected via informal interviews. Informal interviews were conducted with the ambassador post-training session and at the end of the intervention period. These interviews assessed unexpected barriers and benefits that arose during the intervention period.

Measures

Process measures included: percentage of GDS tool completion at follow-up appointments and percentage of participants who utilized tools in between appointments and were available for follow-up. Outcome measures included change in depression scores from baseline to follow-up as measured by the Geriatric Depression Scale. Balancing measures included subjective report from the ambassador about intervention benefits and consequences.

Data was obtained by chart review to assess ambassador documentation and client acceptance of the toolkit. Patient information was collected by chart review, de-identified, and securely stored within Box.com. Biweekly informal meetings occurred with the ambassador to further assess barriers to use, brainstorm changes, and apply them to the next PDSA cycle. The study period was limited to two months.

Ethical Considerations

For safety and monitoring purposes, ambassadors reported any adverse outcomes or positive screening results by phone, EHR, or in person to registered nurse case managers who subsequently informed the primary care provider for appropriate follow-up. Positive screening results included a GDS score greater than 6; adverse events included any unintended physical consequences as a result of participating in the intervention. Regarding the walking activity, exclusion criteria was applied due to the physical nature of the intervention and the fall risk associated with medically complex clients. All participants were assessed and cleared by a

licensed medical provider prior to inclusion in the intervention. If fall risk was questionable, participants were excluded from the walking activity.

Results

There was an initial delay of several weeks before the intervention began. Initial barriers to implementation were systemic in nature. The clinic was preparing to restructure services, which resulted in staffing changes. Gaining approval from leadership was complex. Multiple levels of management required oversight prior to implementation including: compliance, quality improvement, legal, executive, and regional leadership. Once approval was achieved, implementation began without issue.

The training session was completed and included both the clinic ambassador and PMHNP. The ambassador learned to score the Geriatric Depression Scale, was trained on appropriate ways to offer each toolkit item, and also role-played how to offer advice. Finally, a review of charting etiquette was completed.

After the training session, informal discussion with the ambassador occurred. Comments were generally positive. The ambassador made statements such as, “This [work] makes me happy. I feel like I’m contributing … and feels like I’m actually doing something that adds value.” There was a general consensus that this intervention would have a big impact on patients and staff alike. The ambassador then began to enroll participants for inclusion in the project.

Biweekly check-ins occurred by phone and email. Halfway through the study period, the ambassador achieved 80% inclusion rate (4 participants). At the end of the study period, the ambassador achieved 120% inclusion rate (5 participants, 1 drop out). One person left the intervention due to an insurance change. During the study period, a 40% GDS completion rate was observed. Change in depression scores was significant with an average decrease of 4.5

points recorded. Finally, 50% of participants utilized tools in between visits, with one participant learning more than one tool. Sex differences were observed in the study group. Male participants (n=2) were more open to discussion of the Friendship Line and walking, while female participants (n=2) appeared to benefit most from the breathing exercises for anxiety.

Check-ins during the study period found the ambassador experiencing increased comfort providing the toolkit and GDS. They reported finding their own flow with offering the toolkit by "easing into it". One issue that was discussed involved a feeling that the GDS was "depressing" and that they would "worry about triggering a worse mood." Finally, other barriers discussed were around gaining medical approval for inclusion in the intervention and the timeliness of enrolling participants and seeing for subsequent follow-up.

At the end of the study period, a final check-in occurred with the ambassador. They reported improved confidence with providing the GDS. When asked how they felt the intervention was received by patients, they relayed some patients were, "proud to give their GDS answers [at the end of the study] since they could see that they felt better" and the intervention, "gave us a bonding moment, it felt really positive … and was a good way to show that you care." Overall, the ambassador reported surprise at seeing how well patients improved. Barriers identified included the issue of cognitive capacity. The ambassador reported screening participants for inclusion who initially seemed appropriate, but cognitive impairment made it difficult for the participant to fully engage.

Discussion

Summary

This project aimed to address the prevention of depression in at-risk older adults. Older adults gained access to techniques that are known to reduce the risk for worsening depressive

episodes. Results were significant for reduced depression scores at the end of study. Further, both the ambassador and participants reported feeling that the intervention made a difference in their lives. Strengths of this project include training unlicensed staff to deliver evidence-based interventions known to improve patient's lives. An unanticipated benefit of this project involved a sense of ambassador empowerment with enhanced ability to impact patient outcomes. Additional strengths also involve the delivery of care within a person's home, allowing some of the most at-risk, homebound older adults to receive cutting edge care.

Interpretation

The outcome measure of this project was met by producing an overall reduction in depression scores. Although the study met goals for inclusion, utilization of the toolkit and completion of the GDS were mixed. Half of participants utilized tools between visits, which suggests some patients were engaging in alternate lifestyle habits during the study period. Two of the participants, in particular, experienced significant benefit from the breathing exercise for anxiety. These results mirror those seen elsewhere (Kaminsky et al., 2017). Some of the identified contextual barriers included difficulty scheduling participant follow-up and ongoing lifestyle stressors being experienced by the participant leading to ambivalence about completing both the GDS and toolkit items. Further, the agency was undergoing an organizational restructure, which created stress for both patients and staff.

Limitations

Some of the limitations of this project include its relatively small participant sample size as well as a single staff member being involved in the intervention. A heterogeneous group of participants allowed for some generalizability of results to both the male and female sex. One confounding factor involved initiation of concurrent antidepressant monotherapy in two patients.

By simultaneously addressing depression pharmacotherapy, results cannot solely be attributed to the intervention. An additional confounding factor included participants living with undiagnosed cognitive impairment. These participants may have been unable to fully participate in the intervention.

Conclusions

This project involved implementing a framework to prevent depression and to promote optimal functioning in elderly clients. Although most older Americans do not receive recommended care, projects such as this may inform policymaker and clinicians' decision-making and assist with the funding of improved health care models. The results of this project confirm data seen in the literature: older adults experience reduced mental health symptoms when agencies partner with patients and empower them to take control of their wellbeing. The agency aims to translate this project nationally, thereby providing cutting edge services to more older adults. Next steps to improve this work would be to: include more staff members in the training in order to increase access; aim for a larger sample size and longer study period; interface with patients to assess benefits and consequences of learning the toolkit from their perspective; and trial more tools per patient to enhance options. Outlook on sustainability is sound – the toolkit utilized in this project continues to be implemented within the agency and, at the end of the study period, participants were continuing to be enrolled.

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