Peer support as a strategy for reducing hospital readmissions among older adults with chronic medical illness and depression.

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Abstract

Reducing hospital readmissions has become a national priority, and there has been a strong push to identify strategies that reduce the number of hospital readmissions for high-risk patients. Recent evidence suggests adding peer support to Care Transitions Interventions may reduce hospital readmissions among older adult patients; however there is a dearth of research examining mechanisms through which added peer support may impact outcomes. This paper qualitatively examined the mechanisms through which peer support impacts outcomes after hospitalization from the perceptions of diverse older adults (N=11) recently discharged from the hospital living with a chronic illness and co-occurring clinical depression. Participants were recruited from Tampa General Hospital located in Tampa Florida in the United States. Through thematic analysis, we identified three mechanisms through which peer support may impact hospital readmissions: increased self-efficacy in self-management of disease, connection to community resources and improved mental health literacy. This study suggests that peer support is a valuable approach towards enhancing the benefit and reach of evidence-based Care Transitions Programs.

Keywords: Peer support, Home and community based care and Services, Hospitalizations.

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Introduction

Over the past decade, hospital readmission rates among older Americans have increased substantially [1]. Patients 65 years and older account for 60% of all preventable readmissions [2] and one in five is re-hospitalized within 30 days post-discharge [3]. Hospital readmissions have a detrimental effect on patients and increases risk for complications, infections and functional impairment [4-6]. Research indicates that up to 75% of hospital readmissions can be prevented with enhanced patient education, predischarge assessment and effective care upon discharge [7]. Healthcare systems can improve health care quality by addressing contributing factors: Quality of care patients receive, social support received during their hospital stay and interventions provided during the period of discharge back to the community [8].

Transitional care interventions are initiated before discharge, aiming for safe and effective transition of patients from the acute hospital setting to home [9-11]. Interventions target modifiable hospital readmission risk factors by improving coordination of healthcare services for vulnerable

populations upon hospital discharge and enhancing patients' ability to engage in effective self-management of chronic disease [12]. Eric Coleman's Care Transitions Intervention (CTI) is considered the transition strategy most successfully implemented and evaluated in multiple settings due to its flexibility, low cost, and use of coaches to deliver the intervention [3]. CTI provides patients and caregivers with the tools and support necessary to promote knowledge and self-management of their conditions as they transition from hospital to home-care [13]. A randomized controlled trial with 750 older patients found that those receiving CTI demonstrated a 38% reduction in likelihood of being hospitalized for the same health problem within 30 days for which they were originally hospitalized [14]. Additional investigations have demonstrated the success of the CTI in reducing hospital readmissions and improving patient outcomes [13,15-17].

Despite evidence supporting the Care Transitions Intervention (CTI), there is a dearth of studies which have examined whether CTI is effective for racial/ethnic minority older adults who suffer disproportionately high readmission rates and who also suffer disproportionately from untreated

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depression [18,19]. Research shows that minorities and older adults with depression have a slower rate of recovery after hospitalization, particularly if they are dealing with co-morbid depression. These findings suggest that high-risk patients may require additional support during transitions from the hospital beyond formal transitions interventions [8,20]. Social support delivered by peers after discharge from the hospital may be an additional factor in reducing risk of preventable hospital readmission and could be a viable enhancement to hospital transitions interventions.

Peer support draws upon direct and shared experiences of individuals as a resource maximized for mutual benefit. Peer support workers have lived with a psychiatric disability, offer useful support, encouragement and hope to others in similar situations [21,22]. Our research team recently completed a pilot (Under Review) that examined the benefit of enhancing the Care Transitions Intervention (CTI) with a peer support intervention for diverse older adults hospitalized for chronic medical conditions who also had comorbid depression (N=24). This pilot study found that African American and Latino/Hispanic participants receiving CTI without peer support had a significant decline in quality of life (QOL) after being discharged from the hospital, whereas African-Americans receiving CTI and peer support had no drop in QOL and for Latino/Hispanics, QOL scores improved. Although not statistically significant due to the small sample size, descriptively, participants who received the Enhanced Care Transitions Intervention (ECTI) were less likely to be re-hospitalized at 30 and 60 days.

These findings suggest that adding peer support to transitional care interventions may help to improve outcomes for racial/ethnic minority older adults with depression and may reduce the risk of early hospital readmissions. However, it is not fully clear how peer support improves outcomes for these vulnerable elders. This paper begins to address this gap by qualitatively examining the mechanisms through which peer support impacts outcomes and risk for hospital readmission from the perceptions of participants who received the Enhanced Care Transitions Intervention (ECTI). The implications for this research are key toward identifying culturally meaningful mechanisms influencing transition from hospital to community.

Method

This qualitative investigation is the second phase of a developmental intervention study. In the primary phase, we utilized randomized controlled trial methodology to examine the benefit of adding peer support to the Care Transitions Intervention in a racially diverse sample of older adults being discharged from the hospital to the community with co-occurring physical and mental health conditions. In the second phase, we utilized semi-structured interviews to assess perceptions of the intervention, with a specific focus on the benefit of peer support among participants randomly assigned to receive ECTI (N=11).

Participants and recruitment

Participants were older adults admitted to large, private, not-for-profit hospitals in West Central Florida. Eligible participants were: (a) age 60+; (b) African American, white, or Latino/Hispanic; (c) being discharged to home; (d) admitted to the hospital with at least one chronic medical condition without planned readmissions and with co-morbid depression (per medical records and confirmed with a score ≥ 10 on the Patient Health Questionnaire 9 (PHQ-9); (e) have a caregiver who can engage in the intervention [23]; (f) accessible by phone; and (g) English or Spanish literate. Ineligible participants were: (a) younger than 60; (b) resident of a skilled nursing facility, receiving hospice service or are being discharged to a long-term care facility; (c) living with a health condition that prescribes further anticipated hospital readmission (e.g. transplant patient, cancer, etc.); (d) living with a co-morbid substance use disorder or a psychotic disorder or organic mental disorder (e.g. dementia); and (e) actively suicidal or homicidal;

Procedures

Our partner hospital provided the research coordinator a list of patients meeting preliminary inclusion criteria each week, which was generated through electronic medical records and review of patient characteristics via the hospital's information technology system. The research coordinator contacted these patients, to determine their interest in the study and to conduct a screening protocol to verify information and confirm the depression diagnosis. Once a patient was determined "eligible," the research coordinator faxed the referral to our research partner, the local Area Agency on Aging (AAA) which assigned a trained Care Transitions Intervention Coach for that referral. Of 30 patients meeting criteria, 24 were enrolled and randomly assigned with 12 receiving the Care Transitions Intervention (CTI) and 12 receiving the Enhanced Care Transitions Intervention (ECTI).

Intervention activities

The Care Transitions Intervention (CTI) is a 4 week long intervention which began with a baseline assessment and initial meeting in the hospital prior to discharge. A home-visit appointment occurred within the first three days post hospital discharge. During the intervention, the CTI coach continued to engage the patient by follow-up telephone calls. During the primary home visit and follow-up calls, the CTI coach aimed to improve patient activation around scheduling and attending the follow-up physician appointment, identifying and acting on red flags, addressing medication management issues and utilizing a patient health record.

Participants in the Enhanced Care Transitions Intervention (ECTI) arm received the same 4 week Care Transitions Intervention program but were additionally matched with one of our six trained peer educators. Each peer educator had previously experienced a self-reported depressive episode, received treatment and was currently in recovery. Peer

educators were trained to utilize motivational interviewing techniques (e.g. open-ended questions, reflective listening, reframing) to assess participants' needs, provide accurate information about depression and treatment, discuss their own experience with depression and provide social and emotional support. Participants met with their peer educator weekly, over a two-month period after discharge from the hospital. At least one of these meetings per month occurred in person, and subsequent interactions occurred by telephone or in-person. Average duration was one hour for in-person and 20 min for phone calls. In-person meetings occurred at the participant's home or a neutral location (e.g. park, cafe, senior center, etc.) using participants' preferences. Peer educators also attended bi-weekly supervision meetings with the study PI to discuss current cases, obtain critical feedback and receive additional education and training. Peer educators were paid modestly for their interactions with participants.

Semi-structured interview

Within 4 weeks of completion of the intervention program, interviews (approximately 45 min) were conducted in-home with 11 participants randomly assigned to receive the Enhanced Care Transitions Intervention (one of the 12 original participants died). Interviews were semi-structured with additional items for further probing if necessary. Data were collected in accordance with procedures for the ethical treatment of human subjects (CR1_Pro00025016). Study participants received \$25 for participating in interviews. Examples of questions asked included: "How helpful was the Care Transitions Intervention for you after being discharged from the hospital?"; "What have you found to be the most helpful about working with your PE?" and "What aspects of the Care Transitions Intervention do you feel were the most helpful in contributing to your health and well-being?"

Data Analysis

Qualitative techniques for thematic analysis were utilized to ensure the analysis of the semi-structured interviews was systematic and rigorous. All interviews were audio-recorded and transcribed and checked for accuracy. The thematic analysis process involved: (1) producing a comprehensive inventory of important ideas, expressions, terms and phrases that reflected the language of participants, (2) generating categories under which identified ideas were placed, and (3) clustering the categories to identify broader themes and patterns that emerged from the data [24]. Transcript data were first analyzed using invivo (line-by-line) coding to categorize responses. Codes were subsequently clustered to generate categories of data. Research team members each independently coded the all transcripts, and subsequently met to discuss any differences in the codes assigned to the text and to attain agreement about the final codebook. The final version of the codebook was utilized to recode all the qualitative data. Categories of data were combined to create over-arching themes, and matrices were utilized to identify broader patterns and recurring themes across the 11 interviews.

Results

Demographics showed 55% percent female (n=6) and 45% male (n=5), a ratio comparable to the population served by the AAA and with diversity in race and ethnicity (Table 1). Of the 11 participants, none were re-hospitalized at 30 days and only 2 had been re-hospitalized at 60 days post-discharge. Overall, participants identified three broad themes that concerning how peer support improves outcomes for vulnerable elders from the perspectives of participants: 1) increased self-efficacy in self-management of disease, 2) connection to community-resources, and 3) improved mental health literacy. In the following paragraphs, we provide excerpts from the semi-structured interviews to illustrate these themes, with further quotes presented in Table 2. Pseudonyms are used to protect the identities of study participants.

Increased self-efficacy in self-management of disease

All participants identified that the most difficult aspect of being discharged from the hospital was the fear of managing their disease on their own. In the hospital, they could rely on the nurses, doctors, and social workers to monitor their symptoms, check their vitals, and ensure correct administration of medications. They felt conflicting emotions upon release from the hospital: feeling happy about the prospect of going back to the comforts of their own home,

Table 1. Sample demographics total (N=11).

	N	(%)	Mean
Gender			
Female Male	6 5	55% 45%	
Race			
Non-Hispanic White African American Latino/Hispanic	4 4 3	36% 36% 28%	
Age			
60-62 63-65 66-67+	5 4 2	45% 36% 18%	63 (<i>SD</i> =5.02)
Marital Status			
Married Single Divorced Widowed Other	6 1 2 1	55% 9% 18% 9% 9%	
Education	'		
Some High school High school Graduate Some College College Graduate	2 3 5 1	18% 28% 45% 9%	
Employment			
Retired or Unemployed Full time Employment Part time Employment	8 2 1	73% 18% 9%	
Medical Diagnosis			
Cardiovascular Disease Diabetes Hypertension Chronic Obstructive Pulmonary Disorder	2 5 3 1	18% 45% 28% 9%	
PHQ-9 Scores			
10-14 (moderate depression) 15-19 (moderate to severe depression) 20+ (severe depression)	4 6 1	36% 55% 9%	13 (SD=4.62)

Table 2. Sample responses to the semi-structured interviews. Theme w/ Definition **Direct Quote** "There was a part of me that wished I could stay in the hospital a little bit longer. Just so I could build up my strength more and feel more confident in myself and prepare myself for going home". (Jessica, a 60-year-old Latina woman) "I had mixed feelings about leaving the hospital. I mean I wanted to get home and to see my family and sleep in my own bed at night. But I was real scared about taking care of all my problems on my own". (Jason, a 60-year-old African American man) "It wasn't just me who needed information. My wife needed information too and sometimes people forget about the person that's actually gonna be home taking care of you when all the doctors are gone. That was a great part of this program. That she was involved too and we both learned how to take care of me." (Stan, a 62 year old white man) 1.) Increased Self-Efficacy in Self-"I really liked my CTI coach but my peer educator was really important for my success after the hospital because she Management of Disease became like my friend. When I talked to her it didn't feel like business or like she was being paid to be there. It was like 2.) Increased confidence in their she wanted to be there because she cared about me really and truly. She also helped me with the new behaviors for ability to manage their illness on their health was trying, like if my CTI coach said I should go for a walk that was great. But my peer would go on that walk with own/with their caregiver and engage me, and that was the difference." (Rosa, a 63 year old Latina woman). "My coach said I should try to eat healthier, but I'm Cuban man I like my good culture food. But my peer educator was in health promoting behaviors. Cuban too so she showed me some different ways to cook my food so it would taste good but also be good for me. So she made me feel like I could maybe really do this. Make real changes for the future." (Miguel, 61 year old Latino) "I really loved my peer. He was so good at helping me understand things that used to confuse me. After working with him for a few weeks I really feel confident in myself. He told me if he can do it then I can do it. And that made a lot of sense to me". (Lisa, a 64 year old African American women) "Having a peer educator was nice; I actually enjoyed having an additional person to talk to. My peer reinforced a lot of the things my coach [CTI coach] taught me and it was nice to have that extra support. But I am not sure if it did anything extra to make me more successful." (Deborah, a 62-year-old white woman) "Ever since I got sick and my friends started to die, I kinda felt like there was no reason to try and make new friends. I might as well just stick with my family and stay home." (Stan, a 62 year old white man). "But my peer educator he really liked to go to the park and go to McDonalds even to just get a cup of coffee. And it was 2.) Connection to Community really nice. I mean I guess I really missed that. And it wasn't until I had someone to do that stuff with that I realized how Resources much I missed it". (Stan, a 62 year old white man) Yeah my peer educator and I used to do a lot together. The first month we mostly met at my house but after that we did a Level of interaction and engagement lot of fun things. We would go have breakfast to talk or go shopping. She was a lot of fun, and I knew that she could help with their community in terms of me if I got sick or something while we were out." (Lisa, a 64 year old African American woman) programs, activities and health "My peer educator told me about this senior center right around the corner from me. I had never been there before but she resources said it was good so I tried it out and I had a great time. I still go there now about once a week. Sometimes my peer goes too and we still get to hang out, but now just as friends. No one knows we used to be in this project together. But I never would have even tried it out if it wasn't for her." (Deborah a 62 year old white woman) "I knew that I was depressed, cause my doctor told me. But I didn't really know what it meant. I mean I thought maybe I was crazy or something. But my peer explained to me that depression is just like any other illness, like my diabetes. And that I shouldn't feel bad about it, and that I don't have to live with it forever. She told me about different treatments, and it was nice to hear about it from someone not trying to sell me on a treatment. But someone who had been through the treatment themselves. I could really trust what she had to say". (Veronica, a 63 year old white woman stated) 3.) Improved Mental Health "I have been depressed for years. And I never wanted to get treatment. I thought I could just push my way through it on my Literacy own, or through prayer. In this project I learned that I don't have to do that. That treatment really can work and that I don't have to take another medication if I don't want to. There are other kinds of options. I didn't really understand that before but I know that now". (Veronica, a 63 year old white woman stated) Participant's perception of their enhanced understanding of mental "I am looking at things differently now. I didn't think treatment for mental health was for me, but yeah I am thinking health conditions in general, their differently about that now." Lisa, a 64 year old African American woman) own mental health condition. "I didn't want to talk to a therapist. I didn't think therapy could really help me. But my PE talked to me about his experience treatment options and attitude toward with depression treatment and it made me think if it worked for him maybe it could work for me too. I finally made a visit to seeking professional mental health see a therapist. And it was good. Not at all what I imagined it to be." (Jason, a 60 year old African American man) "Puerto-Ricans, we keep our personal business to ourselves. We don't share the problems in our mind with other services. people we are taught that from a very young age. You keep your problems to yourself. It should stay in the family. My peer educator though is also Latina, and she showed me that it is ok to recognize when you need help, you know from a professional who is trained to help people with problems of the mind. And I don't have to feel quilty about that. I really appreciated hearing that because I didn't get those messages in my own house. People look down on you for those kind of things". (Jessica, a 60 year old Latina woman)

while simultaneously dealing with the fear of having to take care of themselves. Study participants felt that the Care Transitions Intervention (CTI) significantly improved their confidence in their ability to take care of themselves after discharge. They agreed that meeting their CTI coach in the hospital before being discharged facilitated development of a trusting relationship with their coach and the belief that they would have help once home.

When asked in what ways the Care Transitions Intervention impacted success after leaving the hospital, participants highlighted: information received regarding selfmanagement of disease, learning strategies to watch out for red flags, monitoring medication side-effects, and identifying health promoting behaviors. Janelle, a 67 year old African American woman states, "This program helped me to take care of myself. I learned how to look out for signs my problem [diabetes] is flaring up, I developed a plan for remembering to take my medicines and started to try out new things that are healthy for a better lifestyle and things like that". A follow up probe asked if she learned these things from the CTI coach, or her peer educator, or both. Janelle responded:

"I learned it from both, but the truth is I listened a bit more to my peer [peer educator] because I felt I could maybe trust her more. She been through the same things as me and I could really relate to her. I knew when she said something was bad and could hurt me that she was saying it from experience, not like she read it from a book. She knew what she was talking about from real life. That makes a difference you know."

Racial/ethnic minority participants could easily articulate the added benefit of having the peer educator in addition to the CTI coach. Overall, they felt that their peer educator helped to reinforce the strategies they learned in the CTI program, but in a more applied way. Racial/ethnic minority participants had a greater confidence in their ability to self-manage their disease when they were matched with a peer educator. In contrast, for the white participants, the CTI coach seemed to be enough to foster the sense of confidence in their abilities.

Connection to community resources

All participants, regardless of race/ethnicity felt that working with a peer educator created an opportunity for better connection to their community and greater understanding of available resources in their neighborhoods. Many participants reported they had become homebodies and didn't get out much. Frequently, however, their peer educators suggested meeting in the community, giving participants a reason to get out of the house. In addition to getting out and doing things for fun, participants stated that their peer educator connected them to community resources unknown to them and that their CTI coach didn't know. Janelle, a 67 year old African American woman stated, "My peer educator seemed to know about everything. She is really connected with some agencies in the city. No matter what I said I needed, she knew somebody or some program that could help me out".

Peer educators connected study participants with a range of community-based resources. Peer educators helped participants apply for programs that provided needed services, they connected participants to senior centers and local events in their area, they often helped participants locate community-health centers and programs that offered free behavioral health services or services offered on a sliding-fee basis. Although some of the same resources were provided by the CTI coach, participants seemed more likely to try identified resources if was referred by their peer educator. Michael, a 65 year old African American male stated:

"I mean I heard of some of these places before, and my coach told me about a few of 'em but I dunno I wasn't all too interested. Or maybe I was just a little embarrassed to ask for the help. But when my peer told me about it and said he had used the help before it made me feel a little better about it. He even came with me to one place so that was real cool".

Improved mental health literacy

All 11 participants stated that working with their peer educator improved their knowledge about depression and mental health treatments. Peer educators are trained to talk to study participants about causes and symptoms of depression, unique features of depression among older adults and different treatment options available. Participants felt that they received this information from someone they could trust, who had gone through this as well, and in a way that they could understand. Learning from someone who has their own personal experience with depression and mental health treatment brought with it a legitimacy that was valuable

to study participants. Participants identified that they were more receptive to learning from the PE than from a mental health professional. Janelle, a 67 year old African American woman stated, "I liked talking to my peer educator about my depression. She really understood where I was coming from. She could relate because she was depressed too. I felt like she really knew what she was talking about and that I could trust her information. I learned a lot from her and felt I could ask her questions that I couldn't ask anyone else".

Many participants assumed that they would need to take an antidepressant for their depression, and the fear of having to take yet another medication kept them from seeking professional mental health services. Many stated that receiving accurate information about depression and treatment helped them to view their depression differently and consider seeking professional services. For some, their peer educator helped them to initiate making an outpatient behavioral health appointment. Further, many felt that just working with their peer educator seemed to have a positive impact on their depression symptoms. Deborah, a 62 year old white woman stated:

"There was something about just talking to my peer educator that felt like healing to me. She was almost like a therapist. I felt better after talking to her. I know I probably still need to talk to a counselor but after my meetings with her I genuinely felt better and had fewer days when I felt totally depressed".

Discussion

This study provides a preliminary examination of the mechanisms through which the extra support provided by a peer educator may impact positive health outcomes and potentially minimize early hospital readmissions when added to the Care Transitions Intervention (CTI) among older adults living with chronic illness and co-occurring clinical depression. Increased self-efficacy in self-management of disease is one of the main goals of CTI. However, additional support provided by a peer educator was seen as valuable to all. White participants had a harder time identifying specific aspects about the peer support that helped them beyond working with their CTI coach. In contrast, participants of color felt very strongly that while they learned a lot from their CTI coach, they viewed the additional support from their peer educator as a critical component to their success. Research recognizes that self-efficacy is a strong predictor of disease management behaviors [25]. Our findings highlight this point. Relatedly, participants of color also emphasized that their peer educator helped them to make the changes suggested by the CTI coach real, by helping them to develop specific behavioral plans of how they would implement selfcare behaviors. Thus, it seems that peer educators supported participants' self-management in at least two ways, by helping participants believe they could manage their health conditions and helping them develop and implement specific plans for self-care.

Participants also identified that having a peer educator helped them to become more integrated into their community and to take advantage of community-based opportunities and resources. Connection with these community-based organizations, senior centers, and programs ensured they developed a foundation for ongoing social support sustained long after the program ended. Consistent social support has been shown to be highly predictive of positive outcomes [26] and our results echo previous research in this area. Peer educators helped participants become aware of community resources and encouraged participants to try those resources, sometimes even going with participants. This also has implications for the family environment of participants whom in this study largely lived alone or with a single caregiver. Caregiving for an older patient with chronic disease and a co-occurring mental illness can be burdensome. Having additional social support provided by the peer educator likely eliminates some of the burden for the caregivers. The impact of peer support for patients on the stress of their caregivers should receive additional research attention in future studies.

Talking to someone who had experience with depression helped participants trust the information they received and begin thinking about engaging in services themselves. Our findings echo the well-established associations between health literacy and positive health outcomes [27]. Further, some participants felt that their symptoms of depression improved due to their interactions with their peer educator. Previous research has found that working with peer educators can significantly reduce symptoms of depression [28]. The symptoms of mental illness can exacerbate physical illnesses and impact an individual's ability and motivation to self-manage chronic illness [29]. Our findings suggest that the peer educator enhanced participants' likelihood to seek professional mental health services, and led to a reduction in depression symptoms.

Our findings suggest that the added value or active ingredient in the peer support intervention is behavioral activation. Working with peers helped participants initiate several behaviors to benefit their physical and mental well-being: playing an active role in their health, engaging in community resources and seeking mental health services or other support for depression. Behavioral activation has efficacy both in the treatment and prevention of depression [30,31] and its mechanism of action appears to be increasing the individual's engagement in valued, enjoyable behaviors [32]. Our study furthers this line of research by suggesting that behavioral activation has value in reducing unplanned early re-hospitalizations, through peer support led by trained peer educators.

Limitations

The results of this study should be viewed within the context of its limitations. Limiting its generalizability, the study consisted of a small sample of older adults who were also highly educated. Despite the limitations, this study has

several strengths. Despite the small sample, data saturation was reached after the 11 interviews. This study was conducted as part of a randomized controlled trial, with random assignment to the peer support intervention. Also, the diverse sample, with a balance in gender and race/ethnicity, provided a unique investigation of the experience of participating in a care transitions intervention, and of the added benefit of having peer support after hospital discharge, issues not yet addressed within the literature.

Conclusion

This study examined mechanisms through which peer support impacts outcomes after hospitalization from the perceptions of participants who received the Care Transitions Intervention enhanced with peer support. Our findings suggest that the active ingredient of the added peer support intervention is behavioral activation: whether empowering participants to have a more active hand in their health, link with community resources, or seek help for depression. These mechanisms may ultimately have an impact on positive health outcomes and reduced risk of early hospitalizations.

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