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An Intervention to Improve Nurse-Physician Communication in Depression Care

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Abstract

Objectives—Depression in older adult home care recipients is frequently undetected and inadequately treated. Failed communication between home healthcare personnel and the patient's physician has been identified as a barrier for depression care. The purpose of this pilot intervention study was to improve nurse competency for communicating depression related-information to the physician.

Design—A single group pre-post experimental design

Setting—Two Medicare-certified home healthcare agencies serving an urban and suburban area in New York

Participants—28 home care nurses, all female Registered Nurses (RNs)

Intervention—2-hour skills training workshop

Measurements—To evaluate the intervention, pre-post changes in effective nurse communication using Objective Structured Clinical Examinations (OSCEs) and nurse survey reports.

Results—The intervention significantly improved the ability of the home care nurse to perform a case presentation in a complete and standard organized format pre versus post intervention. The intervention also increased nurse reported certainty to communicate depression-related information to the physician.

Conclusions—Our findings provide support for the ability of a brief, depression-focused communication skills training intervention to improve home care nurse competency for effectively communicating depression related-information to the physician.

Keywords

depression; home healthcare; communication; nursing

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INTRODUCTION

Home healthcare has grown into a significant segment of the health care system for a growing number of older adults (1, 2). Currently in the United States, millions of homebound older adults receive home healthcare services annually (1). Our group has found that major depression is twice as common (13.7%) in older adults receiving home healthcare services (3) than those receiving primary care (4), and often is unrecognized (5,6) and inadequately treated (3).

Home healthcare is broadly defined as any diagnostic, therapeutic, or support service provided at home. It encompasses a wide range of services that are provided by a diverse group of professionals, including physicians, pharmacists, nurses, optometrists, psychologists, dieticians, social workers, and speech, physical, and occupational therapists. In Medicare-certified agencies home care nurses provide the vast majority (85%) of skilled care (7) and are mandated to periodically perform patient assessments including assessment for depression symptoms. If a home care nurse suspects depression the clinical information needs to be communicated effectively to the patient's physician as the physician is responsible for making any change in the plan of care including further evaluation. Most homecare agencies lack a defined mental health “system” readily available to provide consultation and evaluation (8).

The American Geriatric Society Public Policy Committee recommends that “physicians share responsibility for the outcomes of care in the home and must be actively involved in the leadership and direction of home care” (9) and Medicare provides physician (nurse practitioner, physicians assistant) reimbursement for some care plan oversight services (10). However, half of physicians' report that they seldom speak with the home care nurses delivering care (11), and some report they do not carefully review written home care nurse updates (12). Physicians report that the inability of the nurse to provide a clear, concise explanation of the clinical problem is a barrier to providing care (13). Our own research found that both physicians and homecare nurses perceive lack of competence by nurses to communicate depression related information as a barrier to depression care (14). Significantly, the quality of nurse-physician communication has been positively associated with better psychotropic management in the nursing home setting (15).

In home healthcare, communication between the home care nurse and the physician has the added complication of physicians and nurses rarely seeing each other face to face or having the opportunity to develop working relationships over time. Evidence of the transient nature of the physician-nurse relationship comes from our observational study where 539 elderly home healthcare patients randomly sampled from a single agency had been referred for home healthcare services by 359 different physicians (3). The large number of referring physicians is a barrier to cultivating working relationships and effective communication.

In this article, we describe a pilot intervention study developed to improve clinical communication between home care nurses and a physician about suspected cases of depression. Our curriculum for home care nursing staff focuses on improving the

completeness and organization of clinical communication with physicians when depression is suspected by the nurse. Our pilot study tested the hypothesis that home care nurses would demonstrate improved ability, and would report increased certainty, in communicating depression-related information to the physician after participating in the skills training intervention.

METHODS

The Institutional Review Board of Weill Cornell Medical College approved this study. Subjects were recruited through two home care agencies located in Westchester County, New York, a diverse region consisting of urban, suburban, and semi-rural areas. The home healthcare agencies were nonprofit, Medicare-certified, voluntary home healthcare agencies. Both of these agencies had a psychiatric nursing department providing evaluations for suspected cases of depression.

The two home care agencies had previously participated in the randomized-trial of *Training in the Assessment of Depression* (TRIAD) Program (16). The primary aim of the TRIAD intervention is to improve home care nurse accurate detection of depression and referral for suspected cases of depression. Our previous report provides full methodological details (16). Nurses were eligible for the present study if they were employed at either of the two agencies, and either completed the TRIAD program or viewed the 35-minute TRIAD video (core component of the TRIAD) within the previous year (17). The video presents education about depression (i.e., prevalence, clinical presentation, common barriers for detection, consequences of depression, and treatment approaches), and provides a series of filmed vignettes demonstrating how to approach geriatric depression detection in the context of common medical conditions. Consistent with being a pilot study, a single group pre-post experimental design was used to assess the impact of the intervention. Repeated measures were conducted at baseline (one to two weeks prior to the intervention) and again 4 weeks after the intervention.

Intervention

The skills-building, 2-hour classroom-based, intervention to improve nurse competency for communicating depression related-information to the physician was administered by a nurse educator and a geriatric psychiatrist. The intervention included a lecture on major depression (i.e., prevalence, diagnostic criteria for major depression, etiology, consequences of depression, and treatment in the older adult) and barriers and strategies for conveying depression related information to a patient's physician. The intervention was designed as a nurse (Registered Nurse) orientation or refresher course to update knowledge on geriatric depression and treatment options. The intervention was developed within the Theory of Diffusion of Innovation framework (18). According to the framework in order for adoption of a new practice to occur the characteristics of innovation need to be perceived by the user as having a relative advantage; being compatible with routine practice; and not being complex. In addition, the intervention should provide opportunities to observe and try the new practice.

The intervention provided an “uncomplicated” structured communication approach (see Appendix) “compatible with routine practice” of communicating assessment information in the home healthcare setting. The use of a standardized format has been identified as one solution to address delayed or inaccurate clinical communication (19, 20). Data items included in the case presentation and the organizational format (see Appendix) were decided on by the research team. Decisions were based on typical psychiatric case presentation format used in the education of physicians (21–23), nurses (24), and previous intervention research evaluating the effectiveness of collaborative care management of geriatric depression in the primary care setting (25).

Participants were given the opportunity to “observe” and “practice” communicating depression related information and were provided with “depression tool kit” to be used in the field which included “Nuts and Bolts: Organization for Depression Case Presentation” (see Appendix). Prior to the “Nuts and Bolts” standardized format, nurses are instructed to first provide their name and the name of the home healthcare agency before discussing an individual patient. Additionally, the “depression tool kit” for use by the nurse in the field provided information about treatment considerations for the older adult, and an antidepressant medication overview. The intervention ended with a group game activity to `reinforce' the information provided.

Measures

The primary outcome measures were assessed with a phone-based Objective Structured Clinical Examination [OSCE] and with a survey. The OSCE was assessed through audio-taped recordings of simulated patient case presentations. OSCEs have been used routinely in medical education to identify performance deficits not captured by self-reported knowledge questionnaires (26, 27). For the current study, subjects were asked to view videotaped simulated patient vignettes and then present cases to an investigator portraying a physician by telephone. Our decision to have the OSCEs phone-based is consistent with the routine practice of home healthcare where nurse-physician communication is often by telephone. Subjects were informed that the telephone calls were being recorded.

Audio-taped case presentations were evaluated by an investigator (EB) using a structured format developed by the research team to rate two domains: completeness and organization. Two parallel cases were used to assess case presentation skills pre and post intervention. The investigator (EB) was masked to the timing of the OSCE recording (i.e., pre-intervention or post-intervention). Patient vignettes were developed by the study psychiatrist (SK) and psychologist (PJR) to represent individuals experiencing clinically significant depressive symptoms. Participants viewed different cases pre and post training (i.e., the cases were alternated) and were provided with a corresponding one-page patient summary. In addition, participants had the “depression tool kit” available to them following the training.

The audiotapes were rated for `presence' or `absence' of predetermined data items from each of four domains: patient demographics, depression symptoms, psychosocial status, and medical information. A fifth domain, `recommendation', reflects collaboration between the nurse and physician. The subjects were prompted by the physician investigator near the end of the OSCE, “What do you suggest as a next step”? Nurses were trained to make

a recommendation for further evaluation by the physician, psychiatric nurse, or another mental health professional for a suspected depression. An additional indicator rated the overall organization of the nurse's clinical presentation as good (0 – 2 errors), fair (3 – 4 errors), or poor (more than 4 errors). For example, if the nurse failed to first provide patient demographic information in the standard format (see Appendix) prior to describing current depression symptoms, 1 error would be scored.

A survey was developed to obtain information on nurse demographics and nurse confidence when communicating and interacting with physicians. Nurses were asked “How certain do you feel that you can effectively communicate depression-related information to the physician?” We also asked about another medical condition (i.e., congestive health failure) as we expected the skills training would generalize across conditions. Nurses were asked “How certain do you feel that you can effectively communicate congestive heart failure related information to the physician?” Congestive health failure was identified as a common medical syndrome managed by home care nurses often requiring communication with the patient's physician. Both survey items used a 4-point Likert-type scale (1= very uncertain and 4= very certain).

Data Analysis

Analyses were performed using SAS, version 9.1 (SAS Institute, Inc., Cary, NC). Participants' characteristics such as age and years of experience are reported as means and standard deviations for continuous variables and as numbers and percentages for categorical variables. OSCE recordings were examined according to time (pre compared to post intervention) for both completeness and organization. Separate data items were rated as `present' or `absent' from five domains (i.e., patient demographics, depression symptoms, psychosocial status, medical information, and nurse recommendation). Fifteen audiotapes were independently rated by a co-investigator (SK). Good interrater reliability was obtained, with kappas averaging 0.90 (range=0.63–1.00).

The data distributions of all variables were examined. Alpha was set to 0.05. Paired binary data were analyzed using McNemar's test. Paired ordinal data were analyzed using the paired Wilcoxon. The p-values were not corrected for multiple comparisons. In evaluating whether differing educational backgrounds affected the study results, nurses were divided into two groups: masters and baccalaureate degrees versus associate degree or a diploma program graduate. For this analysis items dealing with OSCE completeness at baseline and after the intervention were evaluated with Fisher Exact tests; baseline level of certainty for communicating depression related information was analyzed with a T- test.

RESULTS

Of 34 nurses approached, 28 (82%) signed consent, attended the 2-hour intervention session and completed pre and post intervention measures. The 28 study Registered Nurse (RN) participants were all female. The mean + standard deviation age of the nurse participants was 47.1 + 8.0 years (1 missing data point, n =27), consistent with the cohort of nurses currently working in the U.S. (28). The nurse subjects were white 18 (64%), African American 8 (29%), and Asian 2 (7%). All of the subjects were non-Hispanic. The mean

years of nursing experience was 19 + 9.8. RNs participants were highly educated with 6 (21%) being masters degree prepared, 15 (55%) having baccalaureate degree, and 7 (25%) having Associate Degree or Diploma program graduate. Two nurse participants had previously participated in the TRIAD program (4 ½ hour training), 26 had previously (within 1 year) viewed the TRIAD video.

OSCEs were rated on two domains: completeness and organization. Table 1 provides the items rated as present or absent (i.e., completeness) from the audio-taped case presentations. There was a significant increase in the completion of several items following the training: patient demographic information such as age, gender, and marital status; psychosocial information such as living situation and social support; and medical information such as medical conditions, and medications including psychotropic medication other than antidepressants. Nurse recommendation for patient evaluation by a mental health nurse for a suspected depression also increased significantly following the intervention. As seen in Table 1, the nurse recommended patient evaluation by a mental health nurse in 25/28 cases following the training. Two nurses recommended a physician office visit as well, three an additional evaluation by a psychiatrist, and one all three modalities.

There was significant improvement in the overall organization of the case presentations following the intervention. At follow-up, subjects demonstrated significant improved ability to provide an organized case presentation (Wilcoxon Test = 97.5; p = 0.0003). Prior to the training, 1 case presentation (4%) was rated `good' or `very good', 11 (39%) were `fair', and 16 (57%) were `poor' or `very poor'. Following the intervention, 12 case presentations (46%) were rated `good' or `very good', 11 (39%) were `fair', and 5 (18%) were `poor' or `very poor'. To illustrate, Table 2 provides a typical example of a case presentation provided before and after the intervention.

Nurses also reported improved certainty ratings in communicating depression-related information after the training. At follow-up, nurses reported that they felt significantly more certain (3.1 + 0.5) compared to baseline (2.5 + 0.6) (Wilcoxon Test = 60; p = 0.0005). Nurses also reported that they felt significantly more certain in communicating congestive heart failure related information at follow-up (3.6 + 0.5) compared to baseline (3.3 + 0.7) (Wilcoxon Test = 22; p = 0.0215).

In addition, we compared the 21 nurses with masters and baccalaureate degrees to the 7 that obtained an associate degree or a diploma program graduate for completeness of OSCEs. Nursing educational preparation was not significantly associated with completeness of OSCEs for any data item before or after the intervention.

Nursing educational preparation was not significantly associated with certainty for communicating depression related information at baseline or improved certainty following the training. We compared nurse certainty ratings in communicating depression related for the 21 nurses with masters and baccalaureate degrees (2.5 + 0.67) to the seven nurses that obtained an associate degree or a diploma program graduate (2.4 + 0.52) at baseline (t-test 0.36, df = 26, p = 0.72). Following the training nurses with an associate degree or a diploma program graduate (n=5; 71.4%) and nurses with masters and baccalaureate degrees (n=10;

47.6%) changed their reported certainty for communicating depression related information from “very uncertain or uncertain” to “very certain or certain” with no difference statistically (Fisher's Exact Test, p = 0.2).

CONCLUSIONS

The primary finding of this pilot intervention study is that a brief, interactive skills building training can improve the home care nurse's ability to identify and communicate depression-related information by telephone to the patient's physician in a simulated condition. Specifically, the intervention significantly increased the provision of patient demographics, psychosocial status, medical conditions, and medications including psychotropics. Demographic, psychosocial, and medical information (medical conditions and medications) are part of an expected case presentation and are required for the physician (or other healthcare provider) to evaluate depression symptoms in the context of the patient's overall medical and social situation. Additionally, the intervention significantly increased the nurses' certainty in communicating depression-related information and the nurses' recommendation for further evaluation of suspected depression. This is an important result as physicians may be unaware of agency or local home-based mental health resources unless informed by the home care nurse. Therefore we believe that making a recommendation for evaluation of depression symptoms by the physician, psychiatric nurse (if available), or another mental health professional is an important component of the depression case presentation in this setting (see Appendix).

The training focused both on content (what information needs to be communicated) and process (how to organize that information) for a suspected depressed home care patient. Our findings suggest that both competencies were important to the outcome. In terms of content, we found that prior to the training nurses had little idea of what kind of information physicians need to begin developing a plan of care for a suspected case of depression. For example, case presentations generally begin with information about the patient (such as age, sex, marital status) (21–24) yet nurses often did not provide this information. Thus, the training did not simply improve communication skills but taught nurses what kind of information was needed by physicians and why. As noted by others (24) complete, well-organized case presentations are important to nurse-physician communication but often not taught.

Our intervention focused on not just what to tell physicians but also how to organize and present the information about a suspected depressed patient. Nurses repeatedly commented they were pleasantly surprised by how effectively and efficiently they were able to communicate depression related information when they first prepared and used “Nuts and Bolts” format. Although we focused the training on telephone communication, nurses also commonly use fax machines to communicate with physicians. Thus, we also instructed nurses to use the structured communication for organizing information via fax.

Our survey results demonstrated that nurses also reported significantly greater certainty in communicating congestive heart failure related information, despite relatively high baseline levels. We inquired about congestive heart failure as we hypothesized that the

structured clinical communication approach “Nuts and Bolts” would be generalizable to other conditions. We provided this information about another common medical condition as it provides further support and increases the feasibility of disseminating this approach. Given evidence of the utility of this approach across medical conditions, we now use it as the core component of an educational curriculum to improve clinical communication between nurses and physicians approaching a change in status of a nursing home resident with congestive heart failure (29).

In interpreting the lack of improvement in communication of depression symptom and antidepressant information, it is important to discuss the relatively high levels of nurse provision of this information at baseline. As the study was conducted in agencies that previously implemented the evidence-based *Training in the Assessment of Depression* (TRIAD) Program (16) it is not surprising that nurses provided these key symptoms of depression and antidepressant information at baseline as these agencies had made depression screening a priority. We might expect different results in the absence of an agency commitment for this activity. Also, all of the nurse participants had viewed a brief video about depression and depression assessment, although it is doubtful that watching a video once has a significant impact on behavior (30). Although two subjects received more skills training for detecting depression (i.e., full TRIAD intervention) this additional training did not address the knowledge and skill needed to communicate depression related information. In light of the effectiveness of the communication skills training intervention for all of the nurses, the two nurses with additional training did not impact the outcome of this pilot study. It should be noted, however, that the sample size was not large enough to conduct rigorous statistical tests.

There are several limitations that need to be considered in interpreting the results of this pilot intervention study. First, the skills building intervention was co-administered by a nurse educator and geriatric psychiatrist, making dissemination potentially difficult.

Because of this, we plan to develop a facilitator's guide to simplify implementation. Second, the pilot was conducted in only two agencies with highly educated nurses. It is unknown if the intervention would have the same impact in other agencies with a more heterogeneous group of nurses with regards to training and licensure. Third, it is unknown if nurses' real world communication with physicians would be improved and if depression care will be improved as a result of the intervention. Finally, lack of a control group limits our ability to link the observed changes to the training. Consistent with the purposes of a pilot study, this study provides support for further investigation in a larger trial.

A critical link between depression assessment and subsequent treatment in home healthcare is communication between the nurse who sees the patient and the physician responsible for that patient's care. The pilot data reported here provide support for the intuitive finding that formal training in depression case presentation will improve the ability of home care nurses to communicate depression-related information to the patient's physician. Given the relatively brief intervention and the public health problem of under recognized and under treated depression in home healthcare patients, these findings are promising. Further study will determine if this “simulated” skill will improve “real-world” practice.

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APPENDIX

Nuts and Bolts: Organization for Depression Case Presentation

I am calling you about your patient Mr/Ms _____ whom I suspect has depression.

☐ AGE, MARITAL STATUS, RACE, GENDER

☐ CURRENT SYMPTOMS (duration, pervasiveness) SUICIDAL IDEATION PSYCHIATRIC HISTORY (if any)

☐ PSYCHOSOCIAL (LIVING SITUATION, SOCIAL SUPPORT, STRESSORS)

☐ MEDICAL ILLNESS and MEDICATIONS (dose for psychotropic)

☐ Recommendation for further evaluation by the physician or psychiatric nurse. (Physician may decide to refer to another mental health professional).

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Table 1

Nurse Subject Audio-Taped OSCEs: Baseline (n =28) versus Post-Intervention (n=28)

Item Reported	Baseline n(%)	Post n(%)	Statistic*	P-value
Nurse reported demographics:				
Age	0 (0%)	22 (79%)	--	<0.001†
Gender	1 (4%)	21 (75%)	20.0000	<0.0001
Marital Status	3 (11%)	22 (79%)	17.1905	<0.0001
Nurse reported depression symptoms				
Depressed Mood	20 (71%)	23 (82%)	0.8182	0.5488
Anhedonia	24 (86%)	22 (79%)	0.5000	0.7266
Suicidal Ideation	21 (75%)	22 (79%)	0.0909	1.0000
Nurse reported psychosocial information				
Living Situation	3 (11%)	17 (61%)	12.2500	0.0005
Social Support	6 (21%)	16 (57%)	6.2500	0.0213
Nurse reported medical information				
Medical				
Conditions	0 (0%)	8 (29%)	--	0.007†
Medications	0 (0%)	11 (39%)	--	0.001†
Antidepressant	17 (61%)	24 (86%)	3.7692	0.092
Antidepressant				
Dose	11 (39%)	16 (57%)	1.9231	0.267
Other				
Psychotropic	10 (36%)	23 (82%)	13.0000	<0.0001
Nurse recommendation for a mental health nurse evaluation	16 (57%)	25 (89%)	7.3636	0.0117

*McNemar Exact (1 degree of freedom) testing baseline value x post value

†Where the statistic is missing, the p-value for McNemar's was calculated using an exact calculation and the statistical package StatXact v8 (StatXact8 from Cytel Statistical Software & Services, Cambridge MA).

Table 2

Illustrations of Audio-Taped OSCEs: Baseline and Post-Intervention

Subjects were instructed: "*Today you performed a visit with this patient (patient vignette viewed) you suspect is depressed. Please call the physician and present the case to the patient's physician as you would do ordinarily as a component of providing home health care services*."
Baseline: I am calling you to tell you about your patient Mr. Jones. He is not sleeping well, fatigued, and his wife is concerned. He has diabetes and takes insulin. He may be depressed and his wife says he is anxious. …. I am not sure what to do, he is already taking Zoloft. He denies thoughts about death or suicide… He had a hip replacement 2 months ago.
Post-Intervention: I am calling you about your patient Mr. Arthur Jones whom I suspect has depression. Mr. Jones is a 66 y.o. married, White man. He reports a depressed mood, most days nearly every day for the last 6–7 months. He has lost interest in activities (including watching his favorite sporting events). He denies thoughts about death or suicide. He denies a psychiatric history. He is a retired teacher, lives with his wife of 30 years and underwent bilateral hip replacement 2 months ago. Medical illnesses: osteoarthritis, diabetes. Medications include Zoloft 50mg po qd without side effects, Alprazolam 0.25mg po prn q 8 hrs (which he takes once or twice a day). Both started 1 month ago at the rehabilitation facility. Lantus 50 units sc qd hs, and Tylenol Extra Strength 2 tabs q 4–6 hrs prn pain.… I would recommend having a psychiatric nurse evaluate the patient.

Notes: OSCE: Objective Structured Clinical Examination