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Interventions in the Primary Care Setting Aimed at Improving the Completion Rate of Advance Directives

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Abstract: The majority of people never discuss their choice of treatment in end-of-life issues and do not have an advance directive (AD). The cause may be due to the lack of organized professional efforts to achieve completion of ADs. This project used a quasi-experimental one-group pretest-posttest design to determine if an educational intervention increased the completion of an AD. Project results showed that the combination of repeated written and verbal educational information about ADs provided via a primary care setting is an effective intervention to increase completion of ADs. A convenience sample revealed 14% of 90 primary care clinic patients had a completed AD. Following the educational intervention for those patients without an AD, the completion rate was 56% ($p=0.01$, 95% Confidence). The overall completion percentage in the clinic sample increased to 62%. These results were both clinically and statistically significant, ($p < 0.05$, 95% Confidence).

Keywords: advance directive, end-of-life, educational intervention, primary care

INTRODUCTION

An advance directive (AD) is a legal written statement regarding the extent of medical treatment desired in the event that the person is unable to communicate and is no longer able to make decisions. TheADpreventsmisunderstanding among the patient, family, and healthcare providers. Unfortunately, the majority of people, regardless of educational level, age, or gender, never discuss their choice of treatment in end-of-life issues, and do not have an AD.[1]

Less than a third of Americans have documented their end-of-life choices or appointed a health care agent to do so.[2]This is troubling because end-of-life care can be unnecessarily prolonged, painful,expensive, and emotionally burdensome.[3]In one study, 25% of lay respondents reported lack of awareness as the reason for not having an AD.[4]The cause of a continuing low completion rate of ADs may be due to the lack of organized efforts to achieve completion of ADs.[5]Few providers consistently educate patients on the importance of an AD.[6]Health care providers often fail to initiate the time-consuming discussions of end-of-life care and ADs.[7]

Educational interventions have been studied regarding their efficacy in completion of ADs. Current evidence can be categorized into interventions that are patient-centric, provider-focused, or modality specific.The combination of written and verbal educational information about ADs was found to be the most effective intervention to increase completion of ADs. Face to face education, take home educational materials, and a follow-up intervention will allow the patient to discern his specific choices for end-of-life care and to increase the rates of completed ADs. One-on-one counseling with a trusted provider positively influences the completion rate. Current research supports the use of multimodal interventions that include oral and written information in the primary care setting.

A patient-focused intervention may be more appropriate than a provider-only intervention.[8] Giving the patient the chance to ask questions and to personalize the information improved AD completion rates.[9] The provisionof oral information about ADs delivered over multiple visits is the most successful intervention.[10] Interventions that were most effective included repeated contacts with the patient by the provider.[9]

Direct counseling appears to positively influence the completion rate of ADs.[11] Providing information on ADs, whether orally or in writing, forms, and assistance withtheir completionlead to higher rates of ADs.[10] Provider-reminder only was an ineffective method to increase completion of ADs.[8]

Multimodal interventions were shown to increase AD completion rates with the most effective intervention being the combination of educational material and repeated conversations.[12.13] Combined written and verbal educational interventions were more effective than single written interventions in increasing the completion rate.[14] Written materials without face-to-face interaction were ineffective in improving the completion rate.[12]

The purpose of this project was to determine whether an multimodal educational intervention with verbal education, take-home information packet, followed by a phone call at two weeks that reinforced the education, would lead to increased completion of ADs in a sample of adult patients in a Family Practice clinic. The objectives of this project were (1) train the clinic staff via an educational inservice to educate patients regarding the importance of advance directives to improve end-of-life care; (2)establish a standardized approach in this clinic for patient education on advance directives; and, (3) increase the number of patients with a completed advance directive to improve end-of-life care.

Theoretical Framework

Prochaska'sstages of change model (transtheoretical model) was selected as the framework for this project because it assumes that behavior change occurs gradually in stages. Providers can assist in the completion of an AD through understanding the stages of change. The transtheoretical model can be used to increase AD completion by assisting the patient to progress from Precontemplation to Contemplation to Preparation for action and Maintenance.[15]The stages of change model in the process of AD completion are described as Precontemplation and Contemplation (e.g., "I've been thinking I might want to sign an AD"), Preparation (e.g., "I've read the information and talked with my family"), Action (e.g., "I've signed an AD"), and Maintenance (e.g., "I'm interested in revising my directive").[16] Being uninformed about the importance of an AD is indicative of the Precontemplation stage and education is the focus during this stage. Contemplation is the stage of awareness to consider the benefits of advance planning. Allowing time for the patient to study the educational materials and to discuss with family is the key during the Contemplation stage. Preparation is the stage in which people intend to take action in the near future. Ensuring the patient has access to the appropriate documents and repeated discussions are the key to the Preparation stage. Action is the stage in which AD is completed. Maintenance is the stage in which the completed AD will be reviewed and documented in the patient records during this stage.

METHODS

Project Design and Participants

The project design was a quasi-experimental one-group pretest-posttest design. The pretest was the percentage of patients in the intervention Family Practice clinic who had an Advance Directive (AD) prior to the intervention. The intervention was the repeated verbal and written education per protocol. The posttest was the percentage of patients who received the educational intervention and completed an AD.

The project setting was a private Family Practice clinic in Denton, TX. The clinic was staffed by one fulltime MD, one part-time Nurse Practitioner, two medical assistants, a receptionist, and a clinic manager. The study period was three months. A letter of support from the clinic was obtained endorsing the project. The University of Texas Arlington Institutional Review Board approved the project as quality improvement. Inclusion criteria included patients over18 years of age, English speaking, and did not already have an AD. A convenience sample of 90 participants was obtained. The sample population included 43.3 % males and 56.7% females. The sample age ranged from 20 years to 92 years, with a mean age of 50.5 years.Caucasians comprised the majority of the sample.

Measures

A script to emphasize the importance of the AD and answer concerns was used for data collection during the follow-up phone calls. The following data were collected: age, gender, race, residual questions/educational needs at two weeks, if the AD had been completed at one month, location of AD, reason for non-completion, and chronic diseases. The nominal level of measurement was used to classify the data. Yes/No responses were used as well as comparing ages and genders. The patient responses to reasons for non-completion were open-ended and analyzed.The study variables were measured through an interview process. The data were recorded systematically into a computerized file.

Procedure

Baseline data werederived from the convenience sample of 90 patients from a review of the patient's medical record for documentation of advanced directive status and verbal confirmation that the patient did not have a completed advance directive. The baseline data served as the pretest. The medical assistant verified that the patient did not have an advance directive through verbal inquiry and the lack of documentation in the electronic medical record. The provider gave verbal education via script about the importance of ADs to include the rationale of AD completion and the definition of AD. The clinic conversation was estimated to take 15 minutes. Additionally, the patient was given an education packet to take home that included an infographic, available resources for AD forms and storage, My End-of-life Wishes, and a blank AD form. A follow-up phone call by the provider at two weeks, reinforced the educational intervention through verbally answering any questions and discussing concerns. The two-week follow-up educational intervention was estimated to take 15 minutes. Notation was made if unable to contact the patient after 3 attempts to repeat the educational intervention at two weeks. Outcome data were obtained through a one-month follow-up phone call to determine if the patient had completed an advance directive.The studies discussed in the literature review utilized a time period of one to six weeks for follow-up.The one-month call was estimated to take 10 minutes. Documentation was completed in the EMR confirming completion and location of the patient's AD.

Statistical Analysis

The approach to analysis involved descriptive statistics and a comparison of pretest and posttest scores using nonparametric analysis with chi-square and Fisher's exact tests. The tests were conducted at the alpha level $p=<.05$.

RESULTS AND DISCUSSION

Completion of Advanced Directive

Fourteen percent (14%) of the sample group (n=90) in this Family Practice had an Advance Directive prior to the educational intervention. For the 77 patients at baseline without an Advance Directive, the completion rate increased from a baseline of 0% to a post intervention completion rate of 56% (see Figure 1), $p >0.05$, 95%.

Twenty-six patients, (34% of sample) did not receive the second educational intervention due to inability to make contact with them after three attempts. There was no significant difference of AD status at one-month from baseline for those participants who did not have the two-week follow-up intervention (See Figure 2). Although there was a measurable increase in the completion rate from baseline for those who did not have a 2-week educational follow up, the difference was not significant at the 95% confidence level.

In the group that did receive the two-week intervention, there was a significant difference ($p < 0.05$) in the completion of an AD compared to baseline (See Figure 2). The final one-month completion rate of ADs is statistically significant ($p < 0.05$, 95% Confidence) for those patients who received both the initial face-to-face intervention and the two-week educational follow-up.

Gender

Females had a higher completion rate than males.

Race/Ethnic

Caucasians had a higher overall completion rate than the other races. Of note, completion rates of ADs within a specific group showed the following order: African-American (100%), Other (100%), Hispanic (63%), and Caucasian (52%).

Age

The mean age of African-Americans (AA) in the sample population was 45 years. The mean age of the Other race in the sample population was 62 years. The average age for Hispanics who completed an AD was 40 years, and 38 years for Caucasians. Patients over the age of 50 years accounted for 62.5% of the completed ADs. Of the distinct age categories by decade, the fifth through the ninth decades in the sample population had the highest percentage of completion within their decade.

Reasons for Non-Completion of AD

The reasons given for non-completion included not interested (86%), lack of time (11%), and language barrier for participant with English as his second language (3%). A probe into the "not interested" response primarily indicated that the patient did not feel as if they needed an AD. Such responses as "my family knows what I want" were noted.

Co-Morbidities

The past medical history was collected on the sample population. Patients in a morbidity category that had a >50% completion rate included cardiac, respiratory, endocrine, and renal failure. The sample population with chronic pain states, involving the musculoskeletal and gastrointestinal systems, had completion rates of>50% as well. The sample population with no prior medical history (mean age of 45 years) had a completion rate of 67%. One patient with breast cancer declined to complete an AD.

DISCUSSION

The results show a statistically significant increase in the AD completion rate after the intervention, increasing from 0% to 56%, ($p=<.05$). The experimental hypothesis that there would be a significant difference in completion of an AD after intervention and education was validated due to the baseline completion rate of 14% that improved to 62% after the intervention. The results of this studywere consistent with prior research stating multimodal interventions increased AD completion rates with the most effective intervention being the combination of educational material and repeated conversations.[12,13]

The findings were also consistent with prior research that combined written and verbal educational interventions were more effective than single written interventions in increasing the completion rate of ADs.[14] The lack of significance in completion rate for those patients who did not receive the two-week intervention, versus those who did,validates prior research that the most effective interventions included repeated contacts.[9]

The AA and Other populations had a higher completion rate within their own race than that of Hispanics and Caucasians. Prior research has found that AD completion was less frequent among non-white respondents.[4]

Interventions in the Primary Care Setting Aimed at Improving the Completion Rate of Advance Directives

Literacy level, mistrust of the health care system, and the belief that legally generated directives are unnecessary may be the root cause of lower rates of AAs with an AD.[17,18,19] This project makes an important contribution to prior research showing that the AAs in this sample successfully completed ADs with the Project intervention.

The sample population over age 50 had the highest completion rate of ADs, likely due to increasing awareness of mortality or presence of disease states. The median age in the sample population that cited a lack of interest as the reason for non-completion was 45 years. Those in the later decades may also have more time to complete paperwork than those in the younger generation. Lack of time was a common barrier to completion. The sample demographic was predominantly still of working age, many with children still at home. Gender did not play a significant role in the completion of an AD.

The statistical analysis showed a clear and significant impact that multimodal, repeated interventions have on the completion of an AD. The project revealed that serial interventions over time, both written and verbal, in which the patient was given the opportunity to discuss with family, have questions answered, and repeated discussions with their provider result in a higher rate of completed ADs. Educational intervention works, and works even better when repeated as a follow-up. The Fishers exact test for the non-follow up two-week group was very close to significance ($p = 0.055$) and may merit future investigation. It is still clinically significant that there were a measurable number of patients who completed an AD one month later with no two-week follow-up.

The patient care in this Family Practice setting was transformed through translating the evidence into practice. Sustainability of the project was accomplished through staff education and process changes to query patients about AD status, to provide educational material, provide a two-week follow-up, and documentation of AD status in the medical record.

Study limitations included the short time period, single facility site, and small sample size. Uncontrolled threats to validity included history, instrumentation, and maturation. These threats were not believed to have affected the intervention or outcomes.

Advance care planning discussions can be uncomfortable for providers to initiate. However, advance care planning is the ethical thing to do for our patients. Beneficence requires the healthcare provider to act for the benefit of the patient and to place the patient's best interests above all other considerations[20].A conversation between patient and provider that defines goals for care, treatment options, and informed medical decision-making could result in completion of an AD. Advance care planning gives patients control of their medical care.

AHRQ[21]recommendsproviders establisha protocol for end-of-life care decision-making, education for the patient and family, provide forms, and have the signed document readily available, either online or on the patient's chart.

Further research needs to be done to evaluate the appropriate time frame for follow-up after an educational intervention to determine understanding and compliance. Also, the impact of spirituality and religious beliefs on completion of an AD merits investigation. Further research should be conducted regarding the impact of comorbidities on the completion of an AD.

New reimbursement opportunities enable providers to spend the additional time necessary to educate and discuss end-of-life care. The CPT codes, 99497 ($90) and 99498 ($75), cover "Advance care planning including the explanation and discussion of ADs such as standard forms (with completion of such forms, when performed), by the physician or other qualified healthcare professional; face-to-face with the patient, family member(s), and/or surrogate," for the first 30 minutes and then for each additional 30 minutes. These codes can be added to an office visit charge.

CONCLUSIONS

Conversations about end-of-life care are never easy for the provider, the patient, or the family. However, advance care planning can improve the quality of life and give control to the patient. Providers should translate research into evidence-based practice by implementing processes to facilitate end-of-life care discussions and utilization of resources to increase completion of ADs in Primary Care settings. The intervention is realistic and feasible in a Family Practice setting as the clinic conversation, the two-week follow-up, and the one-month follow-up each took 15 minutes or less per patient to complete.

Finally, the project validated the findings from the literature that multimodal interventions were shown to increase AD completion rates through repeated contacts, direct counseling with a trusted provider, verbal interactions, and written education.

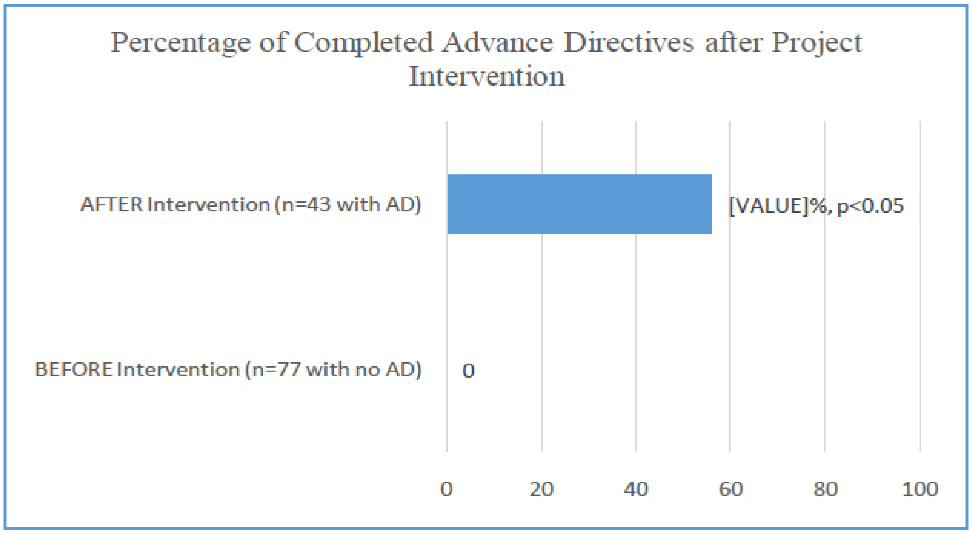

Fig1. *Percentage of Completed Advance Directives after Project Intervention*

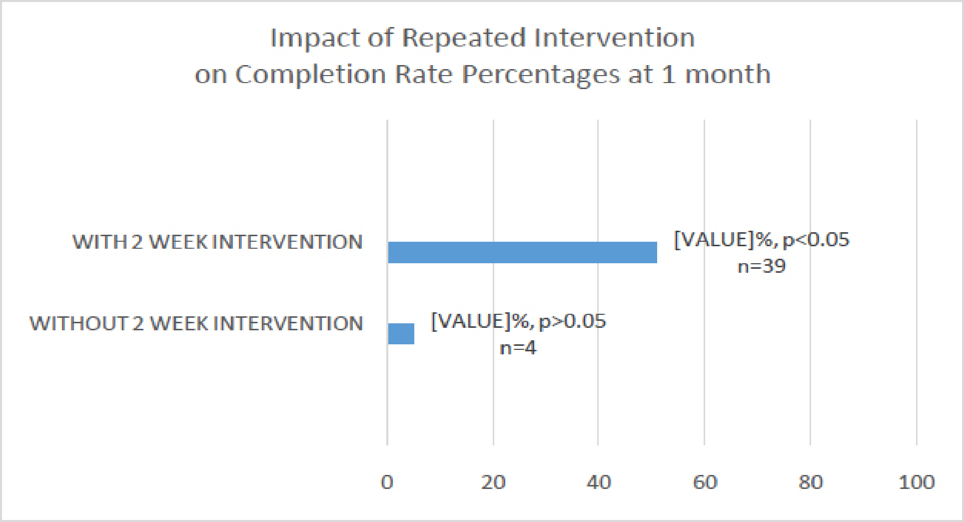

Fig2. *Impact of Repeated Intervention on Completion Rate at 1 month*

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