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THE EFFECT OF THE GOCOMM EDUCATIONAL INTERVENTION ON PHYSICIAN DISTRESS SURROUNDING GOC CONVERSATIONS USING THE PHYSICIAN DISTRESS INVENTORY (PDI)

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ABSTRACT

THE EFFECT OF THE GOCOMM EDUCATIONAL INTERVENTION ON PHYSICIAN DISTRESS SURROUNDING GOC CONVERSATIONS USING THE PHYSICIAN DISTRESS INVENTORY (PDI)

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End-of-life (EOL) care refers to the medical, emotional, and practical support provided to individuals who are nearing the end of their lives. Goals of care (GOC) discussions involve physician exploration of patient beliefs and values, though they do not need to be primarily focused on end-of-life health-care decisions. Engaging in EOL/GOC conversations has been linked to increased quality of life, decreased healthcare costs, and more frequently receiving care in line with patient preferences. Barriers to these discussions occurring exist at both the clinician-level (e.g., inadequate communications training) and the patient-level (e.g., heightened death anxiety). This study aimed to determine if healthcare professionals who participated in the GOComm educational intervention improved their distress intolerance as a result of completing the workshop and if participants' level of education had an impact on the degree to which distress intolerance improved. We collected data from 165 healthcare providers (HCPs). Most participants were practicing professionals from various disciplines (67.3%) with a smaller proportion of the sample were residents in training (29.7%). GOComm integrated didactic and experiential training into 4-hour workshops consisting of small groups of interprofessional teams led by trained facilitators. The curriculum covers topics ranging from using empathy when delivering bad news to asking open-ended questions when exploring patients' values, beliefs, and preferences. We performed pre- and post-test surveys for mixed-method program evaluation. Participants reported demographic, education, and training information, and their distress intolerance and self-efficacy related to EOL/GOC discussions were evaluated. Completion of GOComm was linked to significant improvements in both distress intolerance and self-efficacy. No significant relationship was found between participants' level of professional experience and the degree to which their distress intolerance or self-efficacy improved. There were also no significant differences found in baseline distress intolerance or baseline self-efficacy as a function of level of professional experience. The results of the GOComm workshop indicate that it is possible to improve both healthcare workers' distress intolerance and self-efficacy related to GOC discussions, thereby lessening some of the barriers preventing the initiation of these critical conversations, and hopefully leading to more patients receiving the benefit of GOC conversations have to offer.

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INTRODUCTION

End-of-life (EOL) care refers to the medical, emotional, and practical support provided to individuals who are nearing the end of their lives, often when they have a terminal illness or a condition that is no longer responsive to curative treatments (Izumi et al., 2012; Morhaim & Pollack, 2013). EOL communications aim to develop an understanding of a person's care preferences and values that allow for cooperative planning of care that is aligned with the person's preferences (Sinuff et al., 2015). These conversations and plans are crucial parts of caring for patients with serious illness and provide patients with many benefits. EOL communication ensures the best possible quality of life for the patient, which includes managing symptoms, providing pain relief, addressing psychological and emotional needs, and supporting the patient's and their family's wishes and preferences for their final stages of life (Kaldjian et al., 2009). Patients who were engaged in an EOL conversation by their physician had significantly lower health care costs in their final week of life than those who did not experience an EOL conversation (Zhang et al., 2009). Additionally, in the same study of advanced cancer patients, higher healthcare costs were associated with worse quality of life leading up to death.

A patient's preference for what type of care they would like to receive is important as everyone should have a say in the treatment they receive. Receiving treatment in line with a patient's preferences was found to be more likely when an EOL conversation occurred between the patient and their physician (Brinkman-Stoppelenburg et al., 2014; Mack et al., 2010; Silveira et al., 2010).

Similarly, goals of care (GOC) discussions involve physicians' exploration of patient beliefs and values, though they do not need to be primarily focused on end-of-life health-care decisions (Myers et al., 2018). It is crucial for physicians to proactively engage in goals of care discussions with their patients, since approximately 70% of patients lack the ability to make decisions when EOL treatment decisions must be made (Green et al., 2015).

EOL and GOC communications are conversations surrounding care. Palliative and hospice care encompass the care itself. The goal of palliative care is to improve a person's quality of life by relieving suffering caused by severe illness while continuing to treat the illness itself (Radbruch et al., 2020; U.S. Department of Health and Human Services, 2021).

Receiving palliative care leads to improved patient experiences. Cancer patients who received palliative care suffered less burdens from their symptoms, had improved quality of life, and faced lower costs of their associated healthcare (Dalal & Bruera, 2017). In a study involving non-small-cell lung cancer patients, individuals who received early palliative care demonstrated better quality of life and better mood (fewer depressive symptoms) than individuals receiving standard care (Temel et al., 2010). Additionally, compared to patients who received standard care, patients who received early palliative care had less aggressive care at the end of life but also had longer survival (Temel et al., 2010).

Hospice care also focuses on improving a patient's quality of life, but hospice care is specifically targeted to patients who are approaching the end of their life as their illness is no longer responding to treatments (U.S. Department of Health and Human

Services, 2021). Patients receiving hospice care are anticipated to have six months or less to live and receive care solely to manage the burden of their symptoms (U.S. Department of Health and Human Services, 2021). Being admitted into hospice care in the last six months of life has been found to be correlated with several benefits in patients. Receiving hospice care was associated with higher overall patient satisfaction, better pain management, shorter length of stay in hospitals, fewer in hospital deaths and fewer ICU deaths (Kleinpell et al., 2019).

Conversations about advance care planning (ACP) entail preparation for future decisions a patient may have to make if they become unable to communicate their care preferences or become seriously ill (U.S. Department of Health and Human Services, 2022). As part of ACP, patients may complete an advance directive (AD). Advance directives are legal documents which detail instructions for medical professionals to follow if the patient is unable to make their own decisions (U.S. Department of Health and Human Services, 2022). Patients can also designate a healthcare agent (also known as a proxy; HCA) as part of this process (U.S. Department of Health and Human Services, 2022). HCAs are individuals empowered by an AD to make healthcare decisions for the individual in line with agreed upon preferences (U.S. Department of Health and Human Services, 2022).

A palliative care unit in Hong Kong implemented an ACP program that included structured ACP discussions with patients upon admission, at any change in clinical status and at monthly intervals (Chan et al., 2021). They found that within the last 3 months of life members of the ACP group had significantly fewer acute admissions and significantly shorter length of stay during those admissions compared to the members of the non-ACP group (Chan et al., 2021). Patients within the ACP group also had nearly all their preferences/final wishes (e.g., quality of life, end-of-life care, dying process) met, and 70% of patients and their families strongly agreed that this program helped to understand what needs should be addressed in EOL care of patients (Chan et al., 2021). Another study found that patients who had an ACP encounter were less likely to receive intensive therapies (e.g. chemotherapy) and had a higher likelihood of hospice enrollment than patients without an ACP encounter (Ashana et al., 2019). Both patients and families of patients who participated in ACP did not report experiencing more stress, anxiety or depression when compared with individuals who did not engage in ACP (Brinkman-Stoppelenburg et al., 2014). Put another way, there were no measured adverse effects of having these conversations with patients or with their families. However, additional research has found that there are benefits to patients engaging in ACP. Completing an AD was associated with less ICU admissions within both 30 and 14 days of death, less use of mechanical ventilation, fewer ICU deaths and more deaths in home hospice care (Cappell et al., 2018).

Current Utilization of EOL/GOC conversations and ACP

Discussing goals, preferences, and beliefs, planning for future healthcare needs and receiving symptom relieving care have been shown to be greatly beneficial to both patients and their families. Despite the explicit benefits of engaging with patients and their families in EOL conversations, they are underutilized by physicians. A systematic review of 150 studies found that only 36.7% of adults have completed any type of advance directive (Yadav et al., 2017), and only 53.3% of patients that died of Covid-19 had an advance directive prior to being hospitalized (Bhatia et al., 2021). Further depicting underutilization of EOL conversations, a study by Janssen et al. in 2011 found that only 5.9% of patients with COPD (chronic obstructive pulmonary disease) and 3.9% of patients in CHF (congestive heart failure) had discussed ADs with their physician. In a study of 18,484 seriously ill patients across 14 hospitals within the United States, only 4.7% of the patients had an ACP encounter (Ashana et al., 2019). Studies have found that between 69-100% of patients who have completed an AD or engaged in ACP stated they did not want to receive life-prolonging treatment if terminally ill (Cappell et al., 2018; Chan et al., 2021). If roughly 69%-100% of patients don't want to receive life-prolonging care but conversations surrounding EOL and GOC are so underutilized, many patients will not be given the chance to express their wishes and will likely receive care that is both more invasive and more expensive than they want the burden of receiving.

Who Receives the Benefits of EOL/GOC Discussions: Disparities

An additional challenge surrounding EOL/GOC discussions are the evident disparities in who receives the benefits of these conversations. Non-Hispanic White patients completed ADs more often than Hispanic or Asian patients (51%, 22% and 35%, respectively; Cappell et al., 2018). A state-wide survey in Massachusetts yielded similar evidence of disparate ACP activity (Clark et al., 2018). Based on the results of the survey, individuals who identify as Hispanic or non-Hispanic other were 40-60% less likely to have named an HCA compared to non-Hispanic White participants (Clark et al., 2018). Importantly, these differences in HCA appointment were not the result of ethnic or racial differences in opinions on EOL care; 86% of all participants believed conversations about EOL care are important (Clark et al., 2018).

These disparities are also seen for Black patients. Non-Hispanic Black patients have been found to be more likely to receive aggressive EOL care (e.g., ICU admission, Emergency Department visits, chemotherapy) than non-Hispanic White patients (Samuel-Ryals et al., 2021; Yang et al., 2020). Compared to White patients, Black patients have also been found to be less likely to receive the benefits of hospice care (Samuel-Ryals et al., 2021). These disparities even extend to the knowledge minority groups have about EOL care. A study involving kidney disease patients found that when asked to explain what hospice was, Black patients had less knowledge of hospice compared to White patients and were also less likely to have communicated EOL preferences (Eneanya et al., 2016). To emphasize the full picture, these disparities exist on top of the already outlined low likelihood of EOL/GOC discussions occurring regardless of a patient's race/ethnicity.

Quality of Conversations

Even when there are good and regular conversations between patients and their physicians, patient needs, and the decisions patients should be considering about end-of-life care are not always sufficiently addressed. Patients with heart failure or COPD in one study rated their physician's overall quality of communication as high, but their physician's overall quality of EOL communication as very low (Janssen et al., 2011). Patients in this study reported that over 83% of the time, physicians did not discuss how long the patient had to live, what dying would be like, the patient's spiritual/religious beliefs, how to include the patient in treatment discussions or what was important in the patient's life (Janssen et al., 2011). When EOL/GOC conversations are explicitly taking place, critical topics may still be omitted. A retrospective study of patients with blood cancers examined the content of GOC discussions (Odejide et al., 2019). The researchers found that the topic of hospice care was only discussed roughly a third of the time and the patient's preferred location of dying was discussed in just 4% of conversations (Odejide et al., 2019).

Within GOC discussions several factors have been found to improve overall patient outcomes. Having the first GOC discussion at an outpatient facility, the conversation occurring over 30 days before the end of life, and having a hematologic oncologist present for the conversation (with patients suffering from blood cancers) were all associated with a lower chance to be admitted into the intensive care unit within 30 days of the end of the patient's life (Odejide et al., 2019). Whether or not a specialist was present also made a difference; having a hematologic oncologist present at the first GOC discussion was associated with earlier use of hospice leading up to death (Odejide et al., 2019). Another study consisting of semi-structured interviews with clinicians about the perceptions of barriers to ACP yielded that many clinicians view successful ACP as simply filling out forms as quickly as possible (Ashana et al., 2022). Some physician participants stated that ACP does not have to involve actual conversation or discussion and that their goal is to "check the box" so that there can be a record that the form was completed (Ashana et al., 2022). When it comes to GOC conversations, it is not simply about if the conversation occurs but what is discussed, how early the topics are discussed and who is present for the conversation.

Barriers to Conversations

Why do healthcare workers avoid these conversations? According to previous research, there are as many barriers to engaging in EOL communications as there are benefits. A study involving 1,040 multi-specialty doctors found that 99.99% of doctors reported that there were barriers to discussing EOL with all patients and 85.7% found it challenging to have these conversations (Periyakoil, Neri, & Kraemer, 2015). These barriers exist at both the clinician-level (e.g., inadequate communications training; Scholz et al., 2020) and the patient-level (e.g., heightened death anxiety; Brown et al., 2016). Many barriers can compound and interact with each other to further reduce the likelihood of a GOC conversation occurring. For example, one study found that doctors did not engage patients in conversations about ACP because they were waiting for the patients to start the conversation (De Vleminck et al., 2014). However, another study found that patients were reluctant to start the conversation because they were waiting for their physician to approach the topic (Clark et al., 2018). To have a better understanding of why conversations surrounding EOL/GOC are not occurring, it is necessary to examine the multitude of barriers across perspectives.

Patient-Level Factors

Patient-level factors directly involve the patient and all the sociodemographic information that contributes to the patient's identity (e.g., cultural beliefs). Perhaps the most obvious potential barrier for patients is heightened death anxiety and being uncomfortable around the topic of EOL (Brown et al., 2016; Cheong et al., 2015; Clark et al., 2018). Patients' difficulty accepting their prognosis has also been repeatedly cited as a barrier to EOL conversations (Cheong et al., 2015; De Vleminck et al., 2014; Ethier et al., 2018). In addition to difficulty accepting their prognosis, patients who previously indicated a preference towards aggressive/life-sustaining treatment may further prevent a conversation from being initiated (Ethier et al., 2018). In contrast, a more passive acceptance of one’s circumstances has also been identified as a barrier (Cheong et al., 2015). Patients who demonstrate passive acceptance may leave all the decisions up to their family or other loved ones, or even leave their future/health up to destiny instead of seeking to make any arrangements (Cheong et al., 2015). Understandably, the belief that ACP is unnecessary or irrelevant to the patient’s current circumstances also hinders the process of planning for future care (Cheong et al., 2015; Clark et al., 2018). Being younger is also associated with lower rates of ACP completion (Brown et al., 2016). Patients who have a general distrust of clinicians and healthcare systems are also less likely to engage in EOL planning (Ashana et al., 2022; Periyakoil, Neri, & Kraemer, 2015).

Education and overall health literacy further contribute to the myriad of reasons it can be difficult to discuss EOL. Lower levels of education were found to be associated with a decreased likelihood of ACP completion (Brown et al., 2016). Patients’ lack of understanding surrounding treatments (including life-sustaining treatment), their own diagnosis and prognosis, and ACP overall have been identified as barriers to EOL conversations by physicians (Cheong et al., 2015; De Vleminck et al., 2014; Ethier et al., 2018; Periyakoil, Neri, & Kraemer, 2015). Clinicians also identified patients’ misinterpreting disease information as an important barrier (De Vleminck et al., 2014). Overall, being less educated and having lower health literacy are added hurdles in an already hard to navigate topic.

The loved ones/family of the patient contribute their own barriers further increasing the difficulty of engaging in EOL conversations. Similar to patients, family members may experience denial about the likely possibility of death and have difficulty accepting the prognosis (De Vleminck et al., 2014; Ethier et al., 2018). Lack of understanding of the disease, the treatments for the disease and the implications of life-sustaining treatments are also barriers common among family members and patients (De Vleminck et al., 2014; Ethier et al., 2018). However, family members may also lack agreement over the best course of action and may interfere in EOL conversations (Clark et al., 2018; De Vleminck et al., 2014; Ethier et al., 2018).

Physician-Level Factors

Barriers at the physician level are as varied as the barriers at the patient level, further contributing to the complexity of effectively engaging patients in beneficial conversations about goals of care. Time constraints, competing priorities, and the fast-paced nature of healthcare settings can impede physicians' ability to engage in comprehensive and sensitive discussions (Ashana et al., 2022; Blackwood et al., 2019; Meier, Back, & Morrison, 2001; Morrison et al., 1994; Scholz et al., 2020; Searight & Gafford, 2005; De Vleminck et al., 2014). Lack of training/knowledge, and physician discomfort also contribute to the underutilization of conversations surrounding care (Morrison et al., 1994; Scholz et al., 2020; Ury et al., 2003; De Vleminck et al., 2014). Comprehensive education and training in EOL care, including communication, cultural competency, and empathy, are consistently reported to be inadequate among medical students nationwide (Billings et al., 2010; Periyakoil, Neri, & Kraemer, 2015). Physicians' beliefs about EOL care can influence their willingness to initiate sensitive conversations with patients and their families (De Vleminck et al., 2014).

Additionally, physicians may refrain from conversations surrounding death because of perceptions they have about the patient or their family. Physician perceptions that the patient and/or family members will have difficulty accepting the prognosis, have difficulty understanding the limitations of therapies, or even have difficulty agreeing on what the goals of care should be are additional hindrances to GOC conversations (You et al., 2015). Physicians may also be unsure of specifics surrounding the patients' prognosis (e.g., life expectancy, illness trajectory, treatment options) leading to an avoidance of GOC/ACP conversations (De Vleminck et al., 2014; Ethier et al., 2018). Clinicians may also want to maintain hope in their patient and therefore be reluctant to bring up GOC (De Vleminck et al; Ethier et al., 2018).

Physicians' self-efficacy conducting EOL conversations significantly influences their approach to discussions with patients and their families (Sabolish & Pennartz, 2023). Self-efficacy refers to an individual's belief in how effectively they can achieve their objectives (Farmer et al., 2022). Self-efficacy directly affects motivation, resilience, and overall personal development (Farmer et al., 2022). In a study of first year internal medicine interns, it was found that 77.6% of the interns rated their comfort with giving bad news to a patient as either very low, low, or fair (Ury et al., 2003). 78.7% of the same interns rated their comfort level discussing advanced directives as either very low, low, or fair (Ury et al., 2003). A study involving General Practitioners' (GP) found that GPs may not be initiating ACP conversations because they lack both experience and education about ACP (De Vleminck et al., 2014). Addressing these challenges requires enhancing physician self-efficacy through targeted education and acknowledging the emotional complexities associated with EOL care (Sabolish & Pennartz, 2023).

Physicians' individual distress tolerance can influence their willingness to initiate sensitive conversations with patients and their families. Although EOL conversations are often distressing for patients, physicians may experience their own emotional distress and discomfort when discussing death and other EOL topics (Hilliard, Harrison, & Madden, 2007; Zambrano, Chur-Hansen, & Crawford, 2014), this distress intolerance may promote avoidance of GOC discussion. A qualitative study of 20 oncologists found that oncologists not only felt discomfort surrounding EOL topics but were also reluctant to engage in EOL conversations as they were perceived to be painful for both the patient and clinician (Granek et al., 2013). If discomfort surrounding EOL conversations is prevalent, and additional barriers only add to the difficulty of having them, a change should be made so healthcare workers are less distressed by EOL topics, and more patients can receive the benefits that EOL conversations offer.

Culture-Specific Factors

Cultural beliefs surrounding death and dying also contribute to the growing list of barriers to ACP/GOC discussions. Clinicians interviewed on the topic stated some patients are reluctant to discuss ACP because of cultural, religious, or personal beliefs (Ashana et al., 2022). Doctors reported EOL conversations were especially challenging with patients whose ethnicity was different from their own (Periyakoil, Neri, & Kraemer, 2015). Additionally, clinicians identified cultural differences in approach to GOC conversions as an important barrier (Ha, Lee & Yoo, 2021; Periyakoil, Neri, & Kraemer, 2015). In a study where doctors reported barriers and ranked them by level of importance, the second, third and fourth most important barriers were specifically about either the patient or their family's cultural beliefs (Periyakoil, Neri, & Kraemer, 2015). In order of reported importance, those barriers were patient/family religio-spiritual beliefs about death and dying, doctors' ignorance of patients' cultural beliefs, values and practices, and patient/family's cultural differences in truth handling and decision making (Periyakoil, Neri, & Kraemer, 2015). More specifically, a study by Ha, Lee and Yoo identified barriers to discussing ACP in Korean and Korean American patients, namely their desire to focus on the present (Ha, Lee & Yoo, 2021). Their research found that older Korean adults preferred to focus on maintaining their current health or attempting to recover than preparing for death or potential health deterioration (Ha, Lee & Yoo, 2021).

Previous workshops and the current study

Previous workshops and experiential learning

Kolb defines experiential learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984). Experiential learning research has shown that participants of such research tend to enjoy the process of experiential learning and have a positive attitude about it (Alvarez & Schultz, 2018; Chun et al., 2009; Koponen et al., 2012). Prior research also evaluates gains in knowledge after experiential learning but tends to do so using self-report measures to determine outcomes opposed to more objective measurements (Lee, 2007; Prashant et al., 2020).

Examples of specific training curriculums in EOL topics provide clarity on generally what is to be expected from these types of programs. EOL-focused experiential training programs have shown improvements in self-rated preparedness, communication skills, knowledge, competence, and confidence after providing healthcare workers with additional training and practice (Berns et al., 2017; Brown et al., 2018; Selman et al., 2015; Wilkinson, Perry & Blanchard, 2008). There is no standard length of workshops in previous literature as some have 2-3 sessions on back-to-back days or even 8 four-hour sessions. All the workshops cited demonstrated significant improvements in at least some of their measured constructs no matter their length (Berns et al., 2017; Brown et al., 2018; Selman et al., 2015; Wilkinson, Perry & Blanchard, 2008). Additionally, these workshops consisted of a combination of didactics and simulated patient interactions focusing on improving healthcare worker competency and knowledge of a variety of topics surrounding EOL (e.g., exploring goals and values, effective communication, hospice care; Berns et al., 2017; Brown et al., 2018; Selman et al., 2015; Wilkinson, Perry & Blanchard, 2008). Repeated measure designs are common for evaluating educational programs, and some studies went even farther and tested if the effects from their workshops were enduring. To test for lasting effects, either the post-test was delayed until several weeks after the workshop or participants filled out both a post-test survey immediately following the workshop and an additional survey weeks after the workshop (Berns et al., 2017; Wilkinson, Perry & Blanchard, 2008). Two studies also included control groups in their study design to make comparisons between the workshop group and the control in addition to scores pre-course and post-course from workshop participants (Brown et al., 2018; Wilkinson, Perry & Blanchard, 2008). Of the general examples and the EOL workshops cited above, only one used assessments of actual job performance to measure improvements in addition to self-report measures (Berns et al., 2017). This study examined electronic medical records to determine how many of the participants engaged in ACP with their patients following the workshop and how many of them engaged in more than the required amount of ACP discussions set during the workshop (Berns et al., 2017). The workshop outlined in the study by Berns et al. also integrated assignments to be completed by participants in between the weekly program sessions. Critically, none of these studies measure changes in distress or discomfort following the workshop/intervention which along with self-efficacy has been identified in previous literature as a known barrier.

The GOComm Workshop

Goals of Care Communication (GOComm) is an enterprise-wide experiential learning workshop disseminated across 7 NewYork-Presbyterian medical centers: Allen Hospital, Brooklyn Methodist Hospital, Columbia University Medical Center, Lower Manhattan Hospital, Queens Hospital, Weill Cornell Medical Center and Westchester Behavioral Health Center (formerly Lawrence Hospital). The workshop was also disseminated across other institutions outside of the NewYork-Presbyterian healthcare system (e.g., virtual platforms). As of this research there have been 19 total GOComm sessions with more scheduled for the 2024 training year.

The experiential exercises in GOComm are aimed at providing healthcare workers with the skills they need to more frequently, more effectively, and more comfortably have GOC conversations with their patients. It provides participants with information on how to start and navigate those conversations. Participants are given the opportunity to practice and reinforce what they have learned with other participants through roleplay and receive real-time feedback from trained facilitators and peers. The GOComm workshop was built on the foundations of both the PallComm and AD-LAST workshops (Pan et al., 2022). While the AD-Last workshop proved to be effective at increasing participants' knowledge of EOL conversations and their self-efficacy surrounding those conversations, it did not measure distress levels of the participants as there were no measures available for doing so at the time (Pan et al., 2022).

With the development of the Physician Distress Intolerance (PDI) scale in 2022, it is now possible to measure healthcare workers’ distress surrounding these difficult conversations with patients (Brondolo et al., 2022). To determine if GOComm improves healthcare workers' outlook on EOL conversations, the PDI was administered to participants before and after the workshop. This research will allow the investigators to both use the PDI in the novel context of an educational workshop and to collect data on the effect an experiential workshop has on distress levels surrounding EOL communications. The primary aims of this study are to determine if physician distress intolerance improves as a result of completing the GOComm workshop and to determine if changes in distress intolerance differ depending on the amount of professional experience participants’ currently have.

METHODS

Participants and Recruitment

Participants were recruited via presentations during quality and patient safety meetings, grand rounds, through supervisor recommendation, and information provided on continued education in their medical training. GOComm was also made an educational requirement for all first-year residents at the NewYork-Presbyterian medical center in Queens.

We collected data from 165 healthcare providers (HCPs) working across NewYork-Presbyterian medical centers in New York. Participants completed informed consent and an online survey on Qualtrics, an industry standard method for collecting survey data online. Participants completed a survey before the workshop began and after its completion. Pre and post surveys were matched using participant IDs generated by participants using the first two letters of their first name and last three digits of their phone number.

Participants' ages ranged from 23-67 years old with an average age of 33.9 (SD = 9.2). The sample was predominantly female identifying (75.2%) with the three most common racial/ethnic backgrounds being White/White non-Hispanic (41.8%), Asian (23.6%) or White Hispanic (9.7%). Most participants were practicing professionals (67.3%) with the median amount of experience among professionals being 4 years (min < 1 year; max = 34 years). A smaller proportion of the sample were residents in training (29.7%) with a median year in residency of 1 year (min = 1; max = 7). The most common medical disciplines within our sample were Medical Doctors (MD; 30.9%) and Physician's Assistants (PA; 46.7%).

Workshop Structure

GOComm integrated didactic and experiential training into 4-hour workshops consisting of small groups of interprofessional teams led by trained facilitators. The workshop was completed in a one-day session and was disseminated across in-person (n=4) and virtual modalities (n=15). The workshop was open to all NewYork-Presbyterian interdisciplinary clinical staff members and was a requirement at NewYork-Presbyterian Queens for all first-year residents. The curriculum covers topics ranging from using empathy when delivering bad news to asking open-ended questions when exploring patients' values, beliefs, and preferences. During the experiential component of GOComm, participants broke into small groups to practice learned skills from the didactic portion in real-time. Participants completed two simulated cases with standardized patient actors and were able to receive peer and facilitator feedback and debrief on communication challenges.

Measures

We performed pre- and post-test surveys for mixed-method program evaluation. Participants reported demographic, education, and training information through use of an online survey on Qualtrics. The survey included measures to evaluate participants' distress intolerance and self-efficacy related to EOL/GOC discussions.

Physician Distress Intolerance Scale (PDI)

Physician distress tolerance was measured using The Physician Distress Intolerance Scale (PDI; Brondolo et al., 2023). The PDI is a 10-item scale that examines physician distress intolerance across three domains: anticipating negative emotions (e.g., "I'll be uncomfortable if patients become upset when I tell them about their prognosis"), intolerance of uncertainty (“I'm not clear how to talk to patients about prognosis in some conditions because it can be so ambiguous”), and iatrogenic harm (e.g., “I am concerned that if I tell my patients that they have a life limiting illness, they will stop taking care of themselves”). For the purposes of this study’s data collection, 3 additional items from the initial item pool of the PDI were also included (“I am concerned about discussing the possibility of stopping specific treatments with patients who have a life limiting illness”; “I am hesitant to tell my patients that they have a life limiting illness”; “I feel uncomfortable discussing prognosis with patients because I received limited training”). The scale is rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The maximum possible score on the PDI items used is 65 and the minimum score is 13 with higher scores indicating greater distress intolerance.

Physician Perceived Self-Efficacy Scale

Self-efficacy was assessed using a 7-item scale to assess participants perceived performance/skill-level in several domains related to palliative care (Pan et al., 2023; e.g., [Based on your current experiences, rate your performance/skill level in the following areas] “Provide primary level palliative care to my patients”; “Break bad news to my patients and their families”). Items are rated on a 4-point Likert scale with 1 = poor, 2 = fair, 3 = good, and 4 = excellent. The maximum possible score on this self-efficacy measure is 28 and the minimum score is 7 with higher scores indicating higher perceived self-efficacy.

Statistical Analysis

All analyses were conducted using SAS Studio ver.3.81. Tables and graphs were generated using the Rstudio packages table1 and ggplot. Preliminary analyses were conducted to examine sample demographic information (including discipline, and years of experience). Scores on both the PDI and the self-efficacy scale were totaled in accordance with each measure and for participants scores both before and after the workshop. Difference scores for all repeated measures were also calculated for each respondent by subtracting the participants' posttest scores from their pretest scores.

To test the first hypothesis, comparisons between participants' pretest scores on the PDI and their posttest scores on the PDI were made using a paired sample t-test to determine if there are significant improvements in distress intolerance as a result of the GOComm workshop. To test our second hypothesis, participants were first split into a low professional experience group and a high professional experience group to allow for comparisons to be made across experience levels. The "low experience" group consisted of professionals with less than 3.5 years of experience and residents in their first, second and third year. The "high experience" group consisted of professionals with 3.5 years of experience or more and residents in the fourth year or greater. Paired sample t-tests were used to detect potential group differences in pre-test PDI scores and in PDI difference scores. A general linear model was created to further test interactions between participants' level of experience, their baseline distress intolerance and how much their distress intolerance improved after the workshop.

Exploratory analyses were conducted on participants' self-efficacy scores. Pre-to-post differences in self-efficacy were assessed using paired sample t-tests. As with physician distress intolerance, relationships and interactions between baseline self-efficacy scores, self-efficacy difference scores and participant experience level were assessed using a combination of paired sample t-tests and a general linear model.

RESULTS

Physician Distress Intolerance

70.94% (n=83) of GOComm participants saw improvements in their PDI scores. On average, participants' PDI scores decreased 5.06 points pre-course to post-course indicating that participants were more tolerant of distress they experienced surrounding GOC topics. A paired t-test analysis shows this improvement in PDI scores to be significant. Physician distress intolerance significantly decreased from before (M=38.69, SD=7.98) the workshop to after (M=33.5, SD=9.3) the workshop (t (116) = -7.15, p<.001).

Participants with lower levels of experience had an average pretest PDI score of 37.97 (SD= 8.06), and participants with higher levels of experience had an average pretest PDI score of 39.21 (SD=7.52). The results of a paired sample t-test did not show a significant difference between the two groups at baseline (t (131) = -0.92, p < ns), indicating professionals across all levels of experience reported similar levels of distress intolerance. Average changes in PDI across experience groups were found to be -5.43 (SD=7.72) for the lower experience group and -5.74 (SD=6.29) for the higher experience group. No significant intergroup differences were detected in changes in PDI scores (t (107) = 0.23, p< ns). These results indicate that participants started the workshop with similar abilities in managing distress intolerance surrounding GOC conversations and improved similarly as a result of the workshop. To further explore any potential relationship between levels of experience and PDI scores, a general linear model was conducted to examine the interaction between level of professional experience and pretest PDI scores on overall PDI improvement. The resulting model was not significant (F

(3,105) =0.51, p=ns), reaffirming the previous results of the t-test comparisons based on levels of experience and the PDI difference score and PDI pretest variables.

Self-Efficacy

76.92% (n=90) of GOComm participants saw improvements in their PDI scores. On average, participants' self-efficacy scores increased 2.82 points precourse to postcourse indicating improved self-efficacy related to GOC topics and conducting GOC conversations. A paired t-test analysis shows this improvement in self-efficacy scores to be significant. Self-efficacy significantly increased from before (M=16.82, SD=3.61) the workshop to after (M=19.73, SD=3.27) the workshop (t (116) =9.21 , p<0.001).

Participants with lower levels of experience had an average pretest self-efficacy score of 16.14 (SD= 3.62), and participants with higher levels of experience had an average pretest self-efficacy score of 17.22 (SD=3.95). The results of a paired sample t-test showed a non-significant difference between the two groups at baseline (t (138) = -1.81, p < ns), indicating professionals across all levels of experience reported similar levels of self-efficacy surrounding GOC topics/conversations. Average changes in self-efficacy across experience groups were found to be 3.48 (SD=2.94) for the lower experience group and 2.45 (SD=2.83) for the higher experience group. No significant intergroup differences were detected in changes in self-efficacy scores (t (109) = 1.88, p< ns). These results indicate that participants began the workshop with similar levels of competency surrounding GOC conversations and improved similarly as a result of the workshop. To further explore any potential relationship between levels of experience and self-efficacy scores, a general linear model was conducted to examine the interaction between level of professional experience and pretest self-efficacy scores on overall self-efficacy improvement. The resulting model was not significant (F (3,107) =0.47, p=ns), reaffirming the previous results of the t-test comparisons based on levels of experience and the self-efficacy difference score and self-efficacy pretest variables.

DISCUSSION

GOComm is an educational workshop utilizing experiential and didactic components with the goal of equipping interdisciplinary frontline healthcare professionals with effective communications skills and knowledge related to GOC conversations. The program was disseminated across modalities, hospital settings and professional disciplines allowing for a diverse sample of professionals to receive the workshop. GOComm also shows the utility of the PDI scale in the context of educational interventions. In this novel context, the PDI was able to evaluate participants' distress intolerance levels specifically relating to GOC conversations. Thus, allowing GOComm to fill the gap in research surrounding the distress intolerance that so often accompanies EOL/GOC conversations and care.

GOComm produced significant improvements in physician distress intolerance. As a result of this workshop, participants felt better at tolerating their own negative emotions while interacting with GOC topics. Participants also showed improvements in self-efficacy as a result of the workshop. Post workshop improvements in confidence surrounding EOL topics are consistent with previous literature (Berns et al., 2017; Brown et al., 2018; Selman et al., 2015; Wilkinson, Perry & Blanchard, 2008). These results clearly show the benefits educational interventions can have for healthcare professionals which will in turn be conveyed onto patients as they engage in GOC conversations with professionals who completed GOComm.

Professionals' level of experience was not found to be a distinguishing factor in how much they improved their distress intolerance or self-efficacy. This may suggest that regardless of experience, participants are equally receptive to the information conveyed by GOComm and therefore improve similarly following the intervention. Professionals' level of experience was also not found to be related to baseline levels of distress intolerance or self-efficacy. Similar levels of confidence in abilities and ability to tolerate negative emotions may suggest that GOComm fulfills an educational need not met by experience alone. If having more experience does not significantly lessen professionals' distress surrounding GOC topics, then the need for interventions like GOComm is even clearer.

While eliminating all barriers to EOL and GOC conversations is an impossible task, the results of the GOComm workshop indicate that it is possible to improve healthcare workers' distress intolerance and self-efficacy, thereby lessening some of the barriers preventing the initiation of these critical conversations. GOComm, and interventions like it, give healthcare professionals an additional tool in ensuring as many patients as possible receive the benefits that GOC conversations have to offer.

Limitations

More outcome measures related to participants' skill improvement in GOC conversations are needed to provide further evidence of the effectiveness of the GOComm workshop series. Specifically, information on the number and quality of GOC conversations participants engage in following the workshop is needed. Comparisons can then be made between professionals who attended GOComm and those who did not. Satisfaction data from patients and their family following GOC conversations would also provide useful information and could further advocate for the utility of GOComm. The single session model of GOComm is a strength of the workshop design but does not allow participants to use what they learn as part of their occupational role then return to the remainder of the workshop to reflect and improve upon their skills.

Although our results show significant improvements in participants' distress intolerance and self-efficacy, there is no way to know if the improvements seen are enduring. In accordance with other workshops, a follow-up with participants several months after their completion of GOComm is necessary to determine the stability of the workshop's effects (Berns et al., 2017; Wilkinson, Perry & Blanchard, 2008).

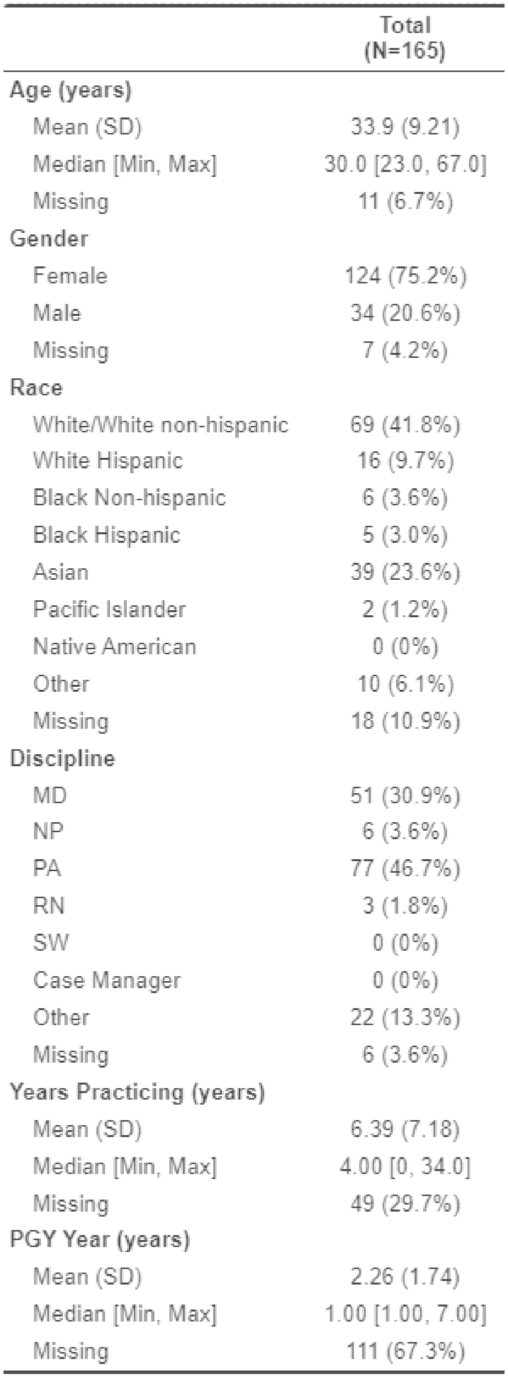
Conclusion

This study aimed to determine if the diverse sample of healthcare professionals who participated in the GOComm educational intervention improved their distress intolerance as a result of completing the workshop and if participants' level of education had an impact on the degree to which distress intolerance improved. Completion of GOComm was linked to significant improvements in both distress intolerance and self-efficacy. No significant relationship was found between participants' level of professional experience and the degree to which their distress intolerance or self-efficacy improved. There were also no significant differences found in baseline distress intolerance or baseline self-efficacy as a function of level of professional experience. The results of the GOComm workshop indicate that it is possible to improve both healthcare workers' distress intolerance and self-efficacy related to GOC discussions, thereby lessening some of the barriers preventing the initiation of these critical conversations and hopefully leading to more patients receiving the benefit of GOC conversations have to offer.

APPENDICES

Table 1

Participant demographic characteristics



	Total (N=165)
Age (years)	
Mean (SD)	33.9 (9.21)
Median [Min, Max]	30.0 [23.0, 67.0]
Missing	11 (6.7%)
Gender	
Female	124 (75.2%)
Male	34 (20.6%)
Missing	7 (4.2%)
Race	
White/White non-hispanic	69 (41.8%)
White Hispanic	16 (9.7%)
Black Non-hispanic	6 (3.6%)
Black Hispanic	5 (3.0%)
Asian	39 (23.6%)
Pacific Islander	2 (1.2%)
Native American	0 (0%)
Other	10 (6.1%)
Missing	18 (10.9%)
Discipline	
MD	51 (30.9%)
NP	6 (3.6%)
PA	77 (46.7%)
RN	3 (1.8%)
SW	0 (0%)
Case Manager	0 (0%)
Other	22 (13.3%)
Missing	6 (3.6%)
Years Practicing (years)	
Mean (SD)	6.39 (7.18)
Median [Min, Max]	4.00 [0, 34.0]
Missing	49 (29.7%)
PGY Year (years)	
Mean (SD)	2.26 (1.74)
Median [Min, Max]	1.00 [1.00, 7.00]
Missing	111 (67.3%)

Note. Not all participants achieved 100% survey completion.

Figure 1

Comparison of PDI scores at pre-test and post-test

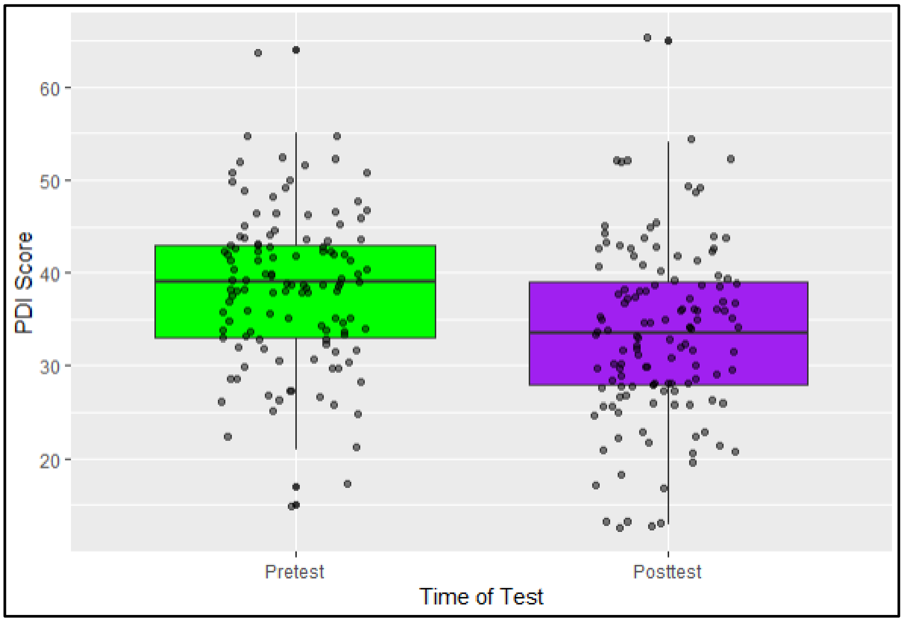
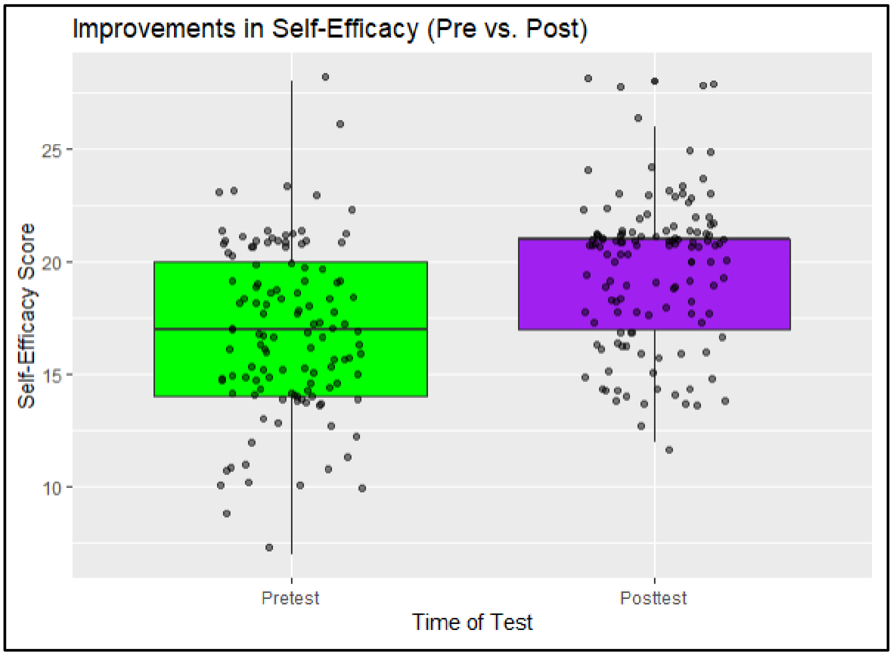


Figure 2

Comparison of self-efficacy scores at pre-test and post-test



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