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Preconsultation compassion intervention to reduce anxiety among patients referred to a cancer center: protocol for a randomised control trial

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ABSTRACT

Introduction Patients diagnosed with cancer commonly have a high degree of anxiety during an initial oncology consultation, which may interfere with a patient's ability to retain information required to make informed treatment decisions. A previous study randomised breast cancer survivors (volunteers) to view either (a) a brief video depicting a standard initial consultation from an oncologist or (b) an identical consultation with the addition of compassionate statements from the oncologist, and found the compassionate statements reduced anxiety among the volunteers. However, while compassionate statements reduced anxiety during simulation, it is currently unknown whether watching a video containing compassionate statements from an oncologist prior to an initial oncology consultation will reduce anxiety among patients referred to a cancer centre. The aim of this randomised control trial is to test whether watching a brief video containing compassionate statements from an oncologist, compared with watching a standard introduction video, prior to an initial oncology consultation will reduce the degree of anxiety among patients referred to a cancer centre.

Methods and analysis This is a prospective, randomised controlled clinical trial at an academic cancer centre. We will enrol adult patients scheduled for an initial oncology consultation. Subjects will be randomly assigned to receive a standard introduction video or enhanced compassion video for viewing prior to the initial oncology consultation. On arrival to the cancer centre, we will measure anxiety severity using the Hospital Anxiety and Depression Scale (HADS). The HADS has two 7-item subscales (HADS anxiety and HADS depression) and is well-validated among oncology patients. We will use Wilcoxon rank-sum test to test for a difference in the HADS subscales between the two video groups.

Ethics and dissemination The Cooper University Hospital Institutional Review Board approved this study. The results from this randomised control trial will be submitted for publication to a peer-reviewed journal.

Trial registration number NCT04503681.

Strengths and limitations of this study

► This study is the first to test whether viewing an enhanced compassion video prior to an initial oncology consultation reduces anxiety among patients referred to a cancer centre.
► The study design will enrol patients across a diverse spectrum of cancer diagnoses allowing for greater generalisability of results.
► The study protocol may result in a proportion of the potential subjects undergoing randomisation but not being exposed to the interventions (ie, deciding not to watch or unable to watch the videos) resulting in a null experiment.
► Given the study design, subjects without an active email address will be excluded potentially limiting generalisability of the study results.

INTRODUCTION

During an initial oncology consultation, when clinicians are discussing cancer diagnosis and treatment options, it is common for patients to have a high degree of anxiety.[1 2] Not only is anxiety psychologically distressing, but also anxiety is a common reason for patients not attending (ie, 'no show') urgent referral appointments for suspected cancer,[3] with approximately 5%–7% of referred patients not attending their scheduled appointment.[4] In addition, a high degree of anxiety has been shown to compete with task-relevant processes and restrict the capacity of working memory.[5] Therefore, anxiety may interfere with a patient's ability to retain information and attenuate a patient's ability to make informed treatment decisions. Perhaps more concerning, anxiety among patients with cancer is associated with increased mortality; while alternatively anxiety treatment is associated with reduced mortality risk.[6] Interventions aimed at reducing anxiety among patients with suspected cancer may allow for enhanced patient involvement in care, improved quality of life and improved outcomes.

Compassion is commonly defined as the emotional response to another's pain or suffering involving an authentic desire to

help.[7–9] Clinician compassion can be conveyed to patients through patient-centred communication, which has been shown to be associated with better patient emotional health.[10] During consultation, clinician assessment of the patient's feelings and concerns, in addition to the physical aspects of the patient's ailment, is positively associated with patient emotional health and symptom resolution.[11] In addition, compassionate communication is viewed by patients as an vital component of the clinician–patient relationship.[12] Previous studies have found when volunteers watch video-vignettes of clinician–patient interactions, videos containing compassionate statements increase volunteer trust in the physician and overall satisfaction, as well as decrease volunteer uncertainty and anxiety.[13 14] A study by Fogarty *et al*[15] randomised breast cancer survivors (volunteers) to watch one of two different videos. The standard video was a dramatised oncologist–breast cancer patient consultation in which a physician described two treatment options for metastatic breast cancer. The second 'enhanced compassion' video was identical to the standard video, but also included two additional segments, during which the oncologist acknowledged the psychological concerns of the patient, validated the patient's emotional state and expressed emotional support. They found that the breast cancer survivor volunteers who watched the enhanced compassion video had a significantly lower degree of anxiety compared with the group who watched the standard video. Although compassionate statements significantly reduced anxiety among the volunteers who watched the simulated video, it is currently unknown whether the same intervention would reduce anxiety among active cancer patients undergoing an initial consultation.

The primary aim of this randomised control trial is to test whether watching a video containing compassionate statements from an oncologist, compared with watching a standard introduction video (sent as part of an ongoing clinical quality initiative at our institution), prior to an initial oncology consultation will reduce the degree of anxiety among patients referred to a cancer centre. In addition, we will test whether the enhanced compassion video reduces the patient no-show rate for the initial oncology consultation. We hypothesise that among patients referred to a cancer centre for suspected cancer, watching a video containing compassionate statements from an oncologist prior to the initial cancer consultation will reduce patient anxiety and no-show rate compared with watching a standard introduction video.

METHODS AND ANALYSIS
Protocol and registration
This randomised control trial protocol was prepared in accordance with the Standard Protocol Items: Recommendations for Interventional Trials statement.[16 17] The final results will be reported according to the Consolidated Standards of Reporting Trials (CONSORT) statement.[18] This randomised control trial has been registered

on the US National Library of Medicine ClinicalTrials.gov.

Study design
This study is a prospective, randomised, controlled, parallel-group clinical trial at a single university-based cancer centre (MD Anderson Cancer Center at Cooper, Cooper University Health Care, Camden, NJ, USA). Enrolment is anticipated to occur between 1 May 2021 and 31 July 2021. Potential subjects will be enrolled at the time of scheduling an initial cancer consultation. Our institutional review board allowed alteration of the requirements of obtaining informed consent under 45 CFR 46.116(d) given the intervention was deemed no greater than minimal risk. All new adult patients scheduled for an initial cancer consultation at MD Anderson Cancer Center at Cooper will be randomised to receive an email containing a link for either the 'standard introduction video' or the 'enhanced compassion video.' Emails will be sent to patients prior to obtaining informed consent to allow for viewing of the video prior to the initial oncology consultation. The study will not be discussed with patients prior to their scheduled appointment to keep the patients masked to the study hypotheses prior to the consultation and to prevent any influence knowledge of the videos' purpose may have on the outcome measures. When the patients arrive to the cancer centre waiting room for his/her initial cancer consultation they will be approached by research staff to obtain written informed consent (online supplemental file) to complete the research questionnaire and for use of data. All appointments will take place in the office (ie, no telemedicine appointments).

Participants
We will enrol adult patients scheduled for an initial cancer consultation at MD Anderson Cancer Center at Cooper. Inclusion criteria include the following: (1) age ≥18 years and (2) scheduled for an initial cancer consultation. We will exclude patients who do not have an active email address or are medically unable to complete the research questionnaire at the time of the initial cancer consultation.

Randomisation and masking
Patients will be randomly assigned to one of two groups, standard introduction video or enhanced compassion video. An independent statistician will generate the group assignment sequence using a parallel design, 1:1 randomisation schedule. Standard measures will be used to ensure appropriate concealment of group assignment. The randomisation assignments will be kept in a sequential list and maintained in the scheduling operator office. At the time of scheduling an initial consultation, appointment operators will identify the next assignment in the series, which will be labelled either 'video A' or 'video B.' The operators will then send the appropriate email containing a link to a website for the matching video. The independent statistician will maintain the code link for the videos. Thus, the operators, investigators and research

statistician will be blinded to video allocation until after all study analyses have been completed.

Interventions

As part of a currently ongoing clinical quality initiative at our institution, when a new patient schedules an appointment for an initial cancer consultation the scheduling operator sends an email to the patient containing a link for a standard introduction video (see script below). For the purposes of this study, a second enhanced compassion video was developed, which added five additional sentences to the standard introduction video. Those five sentences were compassion-focused statements. Both videos feature the same oncologist (ie, Medical Director of MD Anderson Cancer Center at Cooper) and are identical aside from the additional compassionate statements. The compassionate statements added to the enhanced compassion video were based on the statements used in the Fogarty *et al* study,[15] and further modified based on the results of a recent systematic review of clinician compassionate behaviours, which found incorporating statements of support, acknowledgement, patient's perspective, emotion naming and validation increased patient perception of compassion.[19]

Script for the standard introduction video

Hello, I'm Dr. X, Medical Director of MD Anderson Cancer Center at Cooper.

Thank you for choosing MD Anderson at Cooper. We value your confidence in our team.

We believe that exceptional treatment requires a team of experts who specialize in a specific type of cancer. We call this multidisciplinary care. This means that cancer specialists work together to develop and deliver a personalized care plan just for you.

Our nurse navigators are important members of our team. Your nurse navigator will educate you about your diagnosis and treatment, and help guide you throughout your journey—answering your questions and putting you in touch with the services you need. We encourage you to be an active participant in your care. Ask questions, take notes during your visits, and take advantage of the many different supportive care services we have available to you—like our complementary medicine therapies, nutrition counseling, and social work services.

Once again, thank you for choosing MD Anderson at Cooper for your care.

Script for the enhanced compassion video (added compassion statements marked with **)

Hello, I'm Dr. X, Medical Director of MD Anderson Cancer Center at Cooper.

Thank you for choosing MD Anderson at Cooper. We value your confidence in our team.

We know a cancer diagnosis is a tough experience to go through, and I want you to know that we are here with you. Some of the things said during your upcoming visit may be difficult to understand, and we want you to feel comfortable with asking questions if something is confusing or doesn't make sense. We will be with you, and we will go through this together.

We believe that exceptional treatment requires a team of experts who specialize in a specific type of cancer. We call this multidisciplinary care. This means that cancer specialists work together to develop and deliver a personalized care plan just for you.

Our nurse navigators are important members of our team. Your nurse navigator will educate you about your diagnosis and treatment, and help guide you throughout your journey—answering your questions and putting you in touch with the services you need. We encourage you to be an active participant in your care. Ask questions, take notes during your visits, and take advantage of the many different supportive care services we have available to you—like our complementary medicine therapies, nutrition counseling, and social work services.

I know this is a tough time for you, and I want to emphasize again that we are in this together. We will be with you each step along the way.

Once again, thank you for choosing MD Anderson at Cooper for your care.

Measurements and data collection

After obtaining written informed consent, we will administer a research questionnaire to patients at the cancer centre prior to the initial cancer consultation. The questionnaire will assess the patients' perception of the video oncologist's compassion using the 5-item compassion measure, a previously validated patient-assessed measure of perceived compassion during patient care.[20 21] We will abstract patient demographics, as well as clinical information pertaining to cancer diagnosis from the medical record.

Outcome measures

The primary outcome measure will be anxiety severity on arrival to the cancer centre for the initial consultation. As part of the research questionnaire, patients will be asked to complete the Hospital Anxiety and Depression Scale (HADS). The HADS is a 14-item self-reported instrument that assesses anxiety and depressive symptoms in populations with medical conditions (both in-patients and out-patients).[22 23] It has two 7-item subscales: HADS anxiety and HADS depression. Each item is scored on a 4-point scale (0=not at all to 3=nearly all the time); thus, each subscale can range from 0 to 21. The HADS has been extensively validated in oncology populations, and is a commonly used measure of anxiety and depression in oncology studies.[24–27] The HADS depression score will be analysed as a secondary outcome. As an additional secondary outcome measure, we will determine the no-show rate for the initial consultation among each group. We will enter all data into Research Electronic Data Capture, a secure, web-based application designed

to support data capture for research studies,[28] and export the data into Stata/SE V.16.1 for Mac, StataCorp LP (College Station, TX, USA) for analysis.

Statistical analysis

For descriptive statistics, we will report categorical data as proportions with 95% CIs and continuous data as mean values with SDs or medians withIQRs as appropriate. As part of the CONSORT diagram,[18] we will report the proportion of patients who do not attend their initial cancer consultation, as well as the proportion of patients who attend their initial consultation, but decline to participate in the study, stratified by video group allocation. We will test whether the enhanced compassion video reduced the no-show rate to the initial consultation, as well as increased participation in research using the Fisher exact test. We will use Cronbach's alpha to separately test the internal reliability of the HADS anxiety scale, HADS depression scale and the 5-item compassion measure among our cohort. We will test whether the enhanced compassion video group perceived the video oncologist as more (or less) compassionate, as measured by the 5-item compassion measure, than the standard introduction video group using the Wilcoxon rank-sum test.

For the primary outcome, we will use the Wilcoxon rank-sum test to test for a difference in the HADS anxiety scale between the two video groups. We will also perform a sensitivity analysis dichotomizing the HADS anxiety scale into low (<8) and moderate/high (≥8). A cut-off point of 8 on the HADS subscales has been defined as the optimal cut-off point for diagnosis screening and is commonly used to define clinically significant symptoms in research studies.[25 29] We will use the Fisher exact test, to test whether the proportion of patients with clinically significant symptoms differed between the two video groups. For our secondary outcome measure, we will repeat the same analyses described above using the HADS depression scale in place of the HADS anxiety scale. We will perform the above analyses using intention to treat methodology. The analyses will be repeated in a per protocol fashion excluding patients who state they did not watch the video prior to presentation to the cancer centre.

To test whether the relationship between video group and anxiety severity differs among prespecified subgroups we will perform separate multivariable linear regression models with the HADS anxiety scale as the dependent variable, and entering the following patient characteristic along with an interaction term between video group and the characteristic as independent variables: (1) age (decile), (2) sex (male vs female), (3) race (white vs non-white), (4) ethnicity (Hispanic vs non-Hispanic) and (5) suspected primary cancer (breast vs gastrointestinal vs pulmonary vs skin vs central nervous system vs gynecologic vs other).

Sample size calculation

Assuming an α of 0.05, power of 0.8 and an SD of 5 for the HADS anxiety scale, based on previous literature,[24 26] to detect a clinical meaningful difference (previously defined as a 1.5-point difference)[30] between the subjects who viewed the standard introduction video compared with the subjects who viewed the enhanced compassion video we will need 176 subjects per group. Assuming a 25% lost to follow-up (ie, non-attendance to consultation or decline to participate) to ensure accrual of the total sample size of 352, we plan to enrol 470 total subjects.

DISCUSSION

This study aims to test whether viewing compassionate statements from an oncologist prior to an initial oncology consultation will reduce the degree of anxiety among patients referred to a cancer centre. By randomising subjects to one of two introduction videos, which differ only in regard to additional compassionate statements, we will be able to test whether the compassionate statements themselves have an effect on patient anxiety.

Given anxiety has been shown to decrease the ability to concentrate,[5] decreasing patient anxiety prior to their initial consultation may improve engagement with their healthcare providers and empower them to ask questions about what tests and procedures are most appropriate for them. Such improvement in the clinician–patient interaction may also result in improved clinical assessment, accurate diagnosis, as well as better counselling, therapeutic instruction and cost-effectiveness.[10] This study is the first step in testing whether preconsultation compassionate statements decrease patient anxiety. If our hypothesis is correct, future research will be warranted to test the effect of preconsultation compassionate statements on other clinical outcomes such as patient retainment of clinical instructions, medication compliance and cost-effectiveness. Similarly, a null study will support further research into the timing, delivery mechanism and 'dose' of compassion that may be required to reduce patient anxiety prior to their study visit. Regardless of our results, qualitative research is also warranted to identify other potential intervention targets to strengthen the clinician–patient relationship.

To view the videos prior to the initial oncology consultation patients must have an active email account. Thus, subjects without an email account will be excluding potentially limiting generalisability of our results. However, this study will be a first step in determining whether clinician compassion can be conveyed to patients prior to their initial oncology consultation and whether preconsultation compassion can improve patient outcomes.

Protocol amendments

Any amendments to this protocol will be described along with the rationale and date the change was implemented.

Patient and public involvement

We designed this study given previous research has demonstrated that compassionate patient care is considered one of the most important aspects of high-quality healthcare by patients and patient family members.[8 31] However, individual patients were not involved in the design of this study.

Data sharing

After review and approval by our study data use committee, we will allow other researchers who submit to us a suitable protocol to have access to the complete deidentified datasets used and/or analysed during the study, in comma separated value format together with a data dictionary.

ETHICS AND DISSEMINATION

As stated above, this study was approved by the Cooper University Health Care Institutional Review Board with alteration of the requirements of obtaining informed consent under 45 CFR 46.116(d). The results from this randomised control trial will be submitted for publication to peer-reviewed journals, and to national meetings in presentation form.

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