



# WJMER

World Journal of Medical Education and Research

An Official Publication of the Education and Research Division of Doctors Academy



Haematological and Lymphoproliferative Comorbidities in Hepatitis B and C: A Literature Review

Intravitreal Bevacizumab: A Cause for Concern in Patients with Proliferative Diabetic Retinopathy Undergoing Pars Plana Vitrectomy

Perinatal Outcomes of Expectant Management of Severe Preeclampsia at MTRH, Eldoret, Kenya

How We Made Breaking Bad News Skills Training Workshop Relevant to Twenty-First Century Residents at Moi University School of Medicine

Doctors Academy Workshop on Key Skills for Urology Trainees



ISSN 2052-1715



## How We Made Breaking Bad News Skills Training Workshop Relevant to Twenty-First Century Residents at Moi University School of Medicine

Chumba D, Ayiro L, Chang'ach JK, Marete I

### Institution

Moi University, Usain Gishu County, Academic Highway, Eldoret, Kenya

*WJMER, Vol 18: Issue 1, 2018*

### Abstract

**Introduction:** Breaking bad news to patients is one of the most common, and often difficult, responsibilities in the practice of medicine, particularly in cancer related diagnosis. Breaking bad news in an abrupt and insensitive manner may not only be devastating for both the patient and his or her family but is also associated with poor treatment outcomes and doctor burnout. This task is commonly done by residents who are on training. The complexity of the current resident work environment, including the impact of making money or finances in third world countries, is underappreciated. A study to establish the effectiveness of a training intervention to assist residents in breaking bad news hit a big snag when the training workshop, which was held on a weekend, received approximately 10 attendees. 40 attendees were expected.

**Methods:** A quantitative research approach, a quasi-experimental group design was utilized. A purposeful sample of 80 physicians who are residents were selected for the study on a first-come-first-served basis. They were then randomly grouped into two groups: test group and control group. Test group was trained and compared with the control group. Perceived competence in performing breaking bad news tasks by residents was measured using two learning domains: cognitive and affective. These evaluated self-efficacy, empathy and physician's beliefs before and after the training. To achieve this, we designed a flipped classroom program and, two weeks later, a workshop for the test group was held. Cronbach's alpha, median and interquartile range (IQR) was calculated in SPSS version 22. P-value less than or equal to 0.05 was taken as statistically significant. Ethical approval was obtained from the Institutional Review and Ethics Committee (IREC) of Moi University and Moi Teaching and Referral Hospital.

**Results:** A post-workshop survey of residents' self-efficacy score in breaking bad news tasks, empathy scores using JSPE and physician belief scores were assessed. The post-workshop survey revealed that the residents' self-efficacy scores improved significantly when compared with the control group. However, empathy scores and physician belief scores did not change significantly. Resident responses also exposed some challenges in communication skills training in real-life clinical settings for them. There was an apparent less humanistic approach to patients by residents suggesting biomedical curriculum based on the philosophy of science and less or limited in the 'humanistic' one based on the art of medicine.

**Conclusions:** Innovative flipped classroom format in combination with workshop sessions allows easy incorporation of breaking bad news skills training for residents in a postgraduate training program.

### Key Words

Breaking Bad News; Self-Efficacy; Physician Belief; Physician Empathy

### Corresponding Author:

Mr David K Chumba; E-mail: dchumba@yahoo.com

### Introduction

The World Health Organization defines health as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity<sup>1</sup>. Health is perceived by the patient and ill health is as a result of genetic, environmental and other factors. Dunn has explained that illness is an experience that exists when there is disturbances or

failure of psychosocial development leading to changes that traverse all dimensions of the human being namely; biological, physical, mental and psychosocial. It is not uncommon to see individuals facing life-threatening illnesses in hospitals such as MTRH. These individuals might be either seeking help or diagnosis. While dealing with such patients by healthcare personnel, breaking bad news is

inevitable in order to effectively plan for their treatments. Clinicians, acknowledge that patients have a right to information regarding their life threatening illness.

The needs of patients regarding their illness and the difficulties in communicating the same have been an area of interest in research. Breaking bad news well is an essential skill for all doctors as it is something they will do hundreds, if not thousands, of times in their professional careers. Breaking bad news is a skill, just like physical examination and taking a good history. However, it can only be effectively done when both the cognitive and affective domain are combined. Empirical research show that patients want to be informed about their life threatening illness<sup>2,3</sup>. Historically, however, it has been given scant attention in medical training<sup>4,5</sup>. Poor communication, particularly with cancer patients, has been shown to be associated with worse clinical and psychosocial outcomes, including worse pain control, worse adherence to treatment, and confusion over prognosis and dissatisfaction at not being involved in decision making<sup>6</sup>.

Breaking bad news tasks is not one set of skills to be used in a specific situation. It is a blended mix of personal attributes, practical skills, communication skills and behaviours that combine the breaking of bad information to patients with a more bearable and clear manner so that patients may make informed choices<sup>7</sup>. For the clinician, communication difficulties lead to worse job satisfaction and higher stress levels, as well as being associated with a high proportion of errors and complaints. Studies suggest that a number of factors, aside from deficient knowledge, can affect a doctor's ability to impart bad news sensitively, including burnout and fatigue, personal difficulties, behavioral beliefs and subjective attitudes, such as a personal fear of death<sup>8</sup>. Most clinicians have not received formal training in breaking bad news except that given during their undergraduate training to support this frequent and difficult task. Some of the problems related to cancer are not solvable, but an ability to share the patient's feelings has been shown to help<sup>9</sup>. Studies show that key communication skills elements in breaking bad news have been identified<sup>2,3</sup>. This communication can only exist if the physician can comprehend the patient's cognitive and affective states<sup>10</sup>. Building on previous research, empathy is the critical attribute required to precipitate a therapeutic mutual understanding between physician and patient. In a specific medical context, Hojat, in the above study, defines empathy as a non-judgmental understanding of a patient's feelings and experiences as an individual being. Effective breaking of bad news cannot take place without empathy. However, it appears that health

professionals in cancer care often demonstrate a lack the skills that would facilitate patients' disclosure of the psychosocial aspects of their illness<sup>11-13</sup>. Research indicates, however, that these skills can be taught learned using conventional and experimental methods<sup>14,15</sup>.

Clinicians are confronted with this difficult task early in their careers and studies show that they do not feel sufficiently prepared for these tasks. This informed the choice of residents in this study<sup>16,17</sup>. This physician-patient interaction has become important to the point that American Academy for Physician and Patient interaction held a conference on the 7<sup>th</sup> April 2002 in Fetzer Institute Kalamazoo Michigan<sup>18</sup>, referred to as Kalamazoo I, where emphasis was on the importance of physician patient interactions. This was followed by another conference, Kalamazoo II, where there was an emphasis on physicians' interpersonal skills, empathy and attending skills. There are a few established recommendations for the delivery of bad news in the United States. SPIKES protocol, which will be used in this study, is based more on expert opinion but less on empirical evidence. No recommendations for delivery of bad news are available in Kenya, though training in communication skills is an important part of the curriculum.

### **Problem Statement**

Research in this field has been warranted by the following reasons. Firstly this important task is commonly done by residents who are the first to see patients in their training curriculum. Secondly, the perceived competence by residents in breaking bad news will inform the outcome of communication skills given in undergraduate medical curriculum and the effectiveness of a training intervention specifically in breaking bad news will be assessed. Thirdly, the identification of constraining factors and educational needs will inform the planning and teaching of communication skills for both undergraduate and postgraduate students in Moi University School of Medicine. The training intervention component is hoped to inform a theoretical framework for teaching and evaluation of the course of communication skills, which includes breaking bad news.

In 2008, approximately 72% of cancer deaths occurred in low and middle-income countries. In high, upper and low middle income countries, cancer deaths exceed all infectious deaths combined. Low-income countries, while continuing to contend with a heavy burden of infectious diseases, are struggling to deal with an ever-increasing burden of cancer. WHO further says challenges facing developing countries in cancer control are poverty, limited government funds for

health care expenditure in general, let alone for cancer care, a general paucity of trained health care professionals and even less trained in cancer care<sup>19</sup>. Trained health care professionals in the delivery of cancer care migrate to other countries in search of improved professional and financial rewards or opt to practice in the for-profit sector, leaving the poor with even less access to cancer care. This means that all medical personnel, including registrars, are expected to participate in the provision of care in cancer patients.

The technological progress has allowed patients in all walks of life to access information either directly or indirectly which the doctor would have otherwise concealed, leading to awareness by patients that the doctor may be hiding some information from them. In this age of information, doctors cannot afford to 'bury their heads in the sand' in issues relating to physician patient communication as this will not only lead to litigation and cases but increased stress in medical practice.

While the expertise of specialized doctors in various disciplines indicate that trainers and curriculum developers are providing the appropriate knowledge, the critical question is whether the training of doctors in the breaking of bad news adequately equips them with the necessary skills to perform these tasks. We ask if they are provided with the skills pertaining to the emotional and psychosocial aspects of breaking bad news, as well as other factors that play a role resulting in the observed difficulties in this area of communication.

The choice of teaching and learning methods in communication skills training depends on the program goals and objectives<sup>20</sup>. Determining the rationale for the particular method in training is important and reflects the above mentioned goals and objectives. Practical considerations, such as cost, time constraints, and available resources for teaching will impact the choice of training method. The commonly used methods of training include didactic, video demonstrations with discussion, role-play, and feedback.

### **Didactic Methods**

The didactic methods of teaching communication skills in the medical field include lectures, group presentations, and reading assignments. Research indicates that, although these methods are important in helping participants to gain knowledge, they tend not to inspire behavioral changes among participants<sup>21</sup>. Kurtz and colleagues<sup>22</sup> described this method as facilitator-centered rather than learner-centered. When this method is employed, the learners are considered to be passive. However, assigned readings and professional discussions can

promote thinking, stimulate learners' interest, and assist in developing a conceptual framework. This indicates that the didactic method is a basic, but important, and cost-effective approach for participants to gain knowledge and understanding of communication issues.

### **Video Demonstrations**

Video demonstrations are considered to be a direct and cost-effective training method<sup>23</sup>. This approach was found to be a helpful tool for training instructors to use to demonstrate appropriate communication skills and, in some cases, inappropriate behaviors during the clinical encounter<sup>24, 25</sup>. Followed by the discussion of video reviews, this approach can help learners to become aware of areas of communication that need further improvement. Video demonstrations can also provide participants with examples of the type of language that is appropriate for facilitating the discussion of the patient's psychological and emotional problems. Kurtz and colleagues<sup>22</sup> suggested that video demonstrations could be used in large groups, thus making this approach cost-effective. However, the small group format appears to provide more opportunities for participants to generate fruitful group discussions about their experiences during the training<sup>25, 26</sup>. A video demonstration can be a valuable source of information about physician-patient communication for training students and more seasoned clinicians. It also can be a simple and time-effective form of delivering information to professionals in need of strengthening their communication abilities.

### **Role-Play**

Role-play is considered one of the most important parts of effective communication skills training and is widely used by many scholars and clinicians<sup>23, 25, 27</sup>. This method includes role-playing with colleagues and interviews with standardized (simulated) or actual patients. Role-play approach with peers or colleagues is found to be an effective tool for young clinicians. For example, medical students who participated in a communication skills training<sup>28</sup> had positive views about the use of role-play as a method of practicing their skills. The students' feedback also included the importance of practicing their skills in a safe environment. Furthermore, videotaping the role-play sessions in this study followed by viewing the tapes enabled the students to identify the areas in which they needed improvement. However, there are disadvantages to peer role-play, which can be considered as a limitation during training<sup>20</sup>. Participants are not actors and they may find it difficult to role-play without being self-conscious, especially if they already have a relationship with other participants. Additionally, many physicians may perceive role-play

to be an artificial approach to learning specific skills. The use of real patients in practicing physician-patient interactions is a common tool in communication skills training<sup>29</sup>. Researchers suggest that role-play with real patients exposes the learners to real-life clinical situations. However, there is a downside to this approach. Patients are sometimes so supportive of learners that they find it difficult to give accurate feedback. Additionally, ethical issues in involving patients in video-taping training sessions should be taken into consideration, in accordance with professional and organization guidelines.

The use of simulated patients (actors) is mentioned in many communication skills training studies<sup>20, 25, 30</sup>. Simulated patients are realistic patient substitutes and shown to be an effective learning approach. Usually simulated patients are well trained in recognizing specific skills and giving an accurate feedback. However, this method is found to be costly and time-consuming due to lengthy training needed by the actors<sup>20</sup>.

### **Flipped Classroom**

The 'flipped-classroom' (FL) concept is being used in all areas of education including higher education. This teaching technique targets the higher levels of Bloom's Taxonomy.

Flipped-classroom can be particularly attractive to today's student learners, often referred to as "Millennials," or the "Net Generation" because the ability to access contents anywhere satisfies their preferences for immediate, portable access to information. This was the most suitable for residents who cannot obtain adequate time for any form of training. In addition, the "Net Generation" tends to comprise of experiential learners who prefer to be "doing" an activity rather than sitting through a lecture. They also desire to learn and work in environments where students are allowed to help each other. The flipped classroom model allows for increased classroom interaction that can include peer-to-peer activities. A successful flipped-classroom model requires planning and accountability. A flipped-class can help to avoid 'content creep' and promote student application of learned activities. Homework assignments need to be linked to some kind of assessment to increase chances of students completing the assignments schedules<sup>31</sup>. The didactic educational format has limited opportunities for participants to practice and apply the concepts being taught<sup>32</sup>. The so-called 'flipped classroom' allows learners to master new knowledge outside the classroom, while the classroom time is dedicated to interactive strategies

for reinforcing learning<sup>33</sup>.

Previous studies have already compared flipped classroom with traditional method showing better knowledge outcomes in histology<sup>34</sup>, physiology<sup>35</sup>, dermatology<sup>36</sup>, ophthalmology<sup>37</sup>, EKG content<sup>38</sup>, and surgery<sup>39</sup>. Students' satisfactions also seem to be better using the flipped classroom approach<sup>40-43</sup>. More recently Granero *et al* 2018<sup>44</sup> found, quote 'Comparing the two strategies, 'the Flipped Classroom' was associated with better gains in knowledge and attitude, but not in the students' skill, when compared with the traditional method. Likewise, students exposed to the FL intervention felt better prepared and more knowledgeable about caring for older patients'. The FL was evaluated more positively by students, who considered it more dynamic<sup>44</sup>.

### **Assessment of Communication Skills**

Communication Skills Task Force, consisting of Patient-Doctor course leaders, Harvard Medical School experts involved nationally in the area of communication skills, and several clinical site faculties, held a series of meetings over several years to discuss core competencies and a framework for teaching and assessing communication skills during undergraduate medical education. A core group adopted a set of seven communication competencies based on the Bayer-Fetzer Kalamazoo Consensus Statement<sup>45</sup>. This has been done in North American medical schools, However, a report from the AAMC published in 1999 found that, while medical schools use a variety of teaching and assessment methods, the majority (70%) did not use uniform frameworks for assessment throughout the curriculum (Association of American Medical Colleges, 1999). There are no studies found documenting reports in the African setup. However, a communication skills course is usually given early in the medical curriculum and not reinforced anywhere during the six years of the training medical curriculum.

The experts in the Bayer-Fetzer Kalamazoo came with a seven item assessment tool with sub-competencies that would be used to standardize the training and assessment in communication skills. This form the basis the self-efficacy scale used to collect data in the present study.

The table below tabulates the items that have been agreed as the basic competencies in communication skills training.

### Essential Elements.

1. Builds a relationship
  - a. Greets and show interest in the patient as a person
  - b. Uses words that show care and concern throughout the interview
  - c. Uses tone, pace, eye contact and posture that shows care and concern
  - d. Responds explicitly to patient statements about ideas, feelings and values
2. Opens the discussion
  - a. Allows the patient to complete opening statement without interruption
  - b. Asks 'is there anything else' to elicit full set of concerns
  - c. Explains and or negotiates an agenda for the visit
3. Gathers information
  - a. Begins with a narrative using open ended questions (..'tell me about')
  - b. Clarifies details as necessary using yes or no questions
  - c. Summarizes and give patient opportunity to correct information
  - d. Transitions effectively to additional questions
4. Understands patient perspective
  - a. Asks about life events, circumstances, other people that affect health
  - b. Elicits patient belief, concerns and expectations about illness and treatment
5. Shares information
  - a. Assesses patients understanding of the problem and desire for more information
  - b. Explains using words that easy for the patient to understand
  - c. Asks if patient has questions
6. Reaches agreement
  - a. Includes patient in choices and decisions to the extent she/he desires
  - b. Checks for mutual understanding of diagnostic and/or treatment plans
  - c. Asks about patient's ability to follow diagnostic and/or treatment plans
  - d. Identifies additional resources as appropriate
7. Provides closure
  - a. Asks if the patient has questions, concerns, or other issues
  - b. Summarizes
  - c. Clarifies follow-up or contact arrangements
  - d. Acknowledges patient and closes interview

Notes: Ratings used: 1=poor; 2=fair; 3=good; 4=very good; 5=excellent.

A major portion of this study will look at performance of BBN tasks and this section will look at the concept of measuring performance using self-efficacy.

**Table 1:** The Communication Checklist, Bayer-Fetzer Group on Physician–Patient Communication in Medical Education, May 2001. Adapted from Essential Elements.

### Self-Efficacy Theory

Bandura in 1977<sup>46</sup> defined self-efficacy as the belief in ones capacity to organize and carry out action to produce an outcome and is a core aspect in socio-cognitive theory. Individuals express their judgment based on the belief that they can perform a behavior or skill. This theory is task-specific self-confidence which is crucial to imitating behavior necessary to perform competently. Perceptions of self-efficacy are dynamic and are developed in response to information from four sources;

1. Performance accomplishments (actual performance)
2. Vicarious observation (seeing another person perform a behavior)
3. Verbal persuasion
4. Emotional arousal. Lacshinger 1996<sup>47</sup> suggest that performance is thought to exert the

greatest influence on self-efficacy expectations. Therefore, so if a doctor perceives to herself highly in breaking bad news tasks, it is likely that he or she can actually performe well in breaking bad news tasks.

The use of self-efficacy to measure performance has been documented by several studies<sup>48</sup> reported that self-efficacy was related to academic achievement in nursing theory course. Meta-analysis of 114 studies by Stajkovic and Luthans<sup>49</sup> reported 28% gain in performance attributed to enhanced self-efficacy when they looked at work place relationship of self-efficacy and workplace performance. Similar studies by Morits *et al.*<sup>50</sup> correlated self-efficacy and sport performance.

The positive correlation between self-efficacy and



performance is relevant in this study as regards to breaking bad news tasks performance by doctors. This theory will inform the study by asserting that measures of self-efficacy would be significant determinant in ascertaining actual performance in breaking bad news tasks.

### **Self-Efficacy Scale**

The self-efficacy rating scale<sup>25</sup> has been used in communication skills training in oncology as an instrument to measure physicians' self-efficacy beliefs related to their cancer-specific care skills<sup>23,25</sup>. In relation to communication in oncology, there is evidence that self-efficacy is a significant factor in physician-patient interaction patterns should be taken into account in training programs for health care providers<sup>27</sup>. The use of a self-efficacy scale for the proposed study was chosen due to the fact that the SPIKES protocol, which will be utilized in this study, applies a self-efficacy instrument to assess physicians' confidence in delivering bad news. The authors of the SPIKES protocol<sup>25</sup> suggested that, based on their research over the last eight years, a self-efficacy scale consistently showed improvement in physicians' scores after skills training. The 23-item, 5-point Likert scale self-efficacy instrument addresses the confidence of the training participants in their ability to successfully manage skills that relate to delivering unfavorable news to cancer patients. A total score is obtained by adding the scores of all items; higher scores demonstrate higher self-efficacy in communicating unpleasant news skills. This author recognizes that a possible increase in physicians' self-confidence scores will not necessarily represent acquisition of skills in delivering bad news or improved interpersonal communication in clinical practice. However, the literature on delivering unpleasant news and communicating in cancer care suggests that a higher self-efficacy assessment scores can be associated with health care providers' behavior change<sup>51,52</sup>.

### **Methods:**

The study was done in MTRH in Eldoret Uasin Gishu County. Eldoret town is located about 300km North West of Nairobi on the Trans-African Highway and 65km north of the Equator. Currently it is the fifth largest city in Kenya. Considered as farm town, Eldoret hosts a range of tertiary and middle level colleges and universities, including MTRH, MUSOM, and KMTC Eldoret Campus.

MTRH is both a teaching and referral hospital whose core services include specialized clinical services (MTRH, 2018). It is an appropriate place for the study for several reasons: it is the second largest referral hospital in Kenya after KNH; and it carries doctors of various backgrounds, which will be representative sample for the study.

The training workshop was held at the new PDN building where senators usually sit during senate sessions. This room has a comfortable sitting arrangement that is suitable for both large and small group activities. Food and drinks were provided by the researcher; ten o'clock tea, lunch, and 4 o'clock tea. The workshop was scheduled on Saturday 10<sup>th</sup> June 2017, to allow the residents time as they were on a weekend. Presenter: Director Mental Health and Rehabilitation Services in MTRH

### **Research Population**

Research population can be defined as universe of units from which a sample is to be selected, consisting of all the variables the investigator wishes to measure<sup>53</sup>. These were residents doing their residency programs in MUSOM. There are about 30 residents in eight departments offering postgraduate training. Hence a total population of 240.

### **Sample and Sampling Techniques**

A sample is the segment selected for investigation from a population according to Gurmu, and sampling is the process of selecting a subset of individuals within a population to be involved in data collection for the study<sup>53</sup>. Data from this group can then be used to make statistical or qualitative inferences to make predictions about the whole population. Element in the population having similar features to the underlying population, sampled and used to make certain observations<sup>54</sup>.

**Purposive or Judgmental Sample:** Purposive sampling is an acceptable kind of sampling for special situations. It uses the judgment of an expert in selecting cases or it selects cases with a specific purpose in mind. One principle for sample sizes is the smaller the population, the bigger the sampling ratio has to be for an accurate sample. Larger populations permit smaller sampling ratios for equally good samples. This is because, as the population size grows, the returns in accuracy for sample size shrink. For small populations (under 1,000), a researcher needs a large sampling ratio (about 30%).

To achieve the objectives of this study, a purposeful sample of 80 physicians (30% of the population) who are residents and provide treatment for patients with various disease in their specialties. The researcher with a trained research assistant talked to the in charges of residents from all the eight departments who have postgraduate students. Resident doctors through their class reps were first told about the research and the importance of having skills to break bad news to patients and the training that was to come up later on "breaking bad news to patients". All who were interested signed up and were given coded questionnaires on a first-

come-first-served. The department, mobile telephone number and e mail address were taken at the time recruitment. These were written on a separate piece of paper that was destroyed after the training. The researcher and his assistant then collected the questionnaires. The participants were then randomly assigned into two groups: treatment and control group. The date for the training was set. The control group were to be trained after the data has been collected from the treatment group.

Flipped classroom approach was used, where the physicians were given training materials two weeks before, followed by a workshop on delivering bad news to patients diagnosed with cancer. This allowed the reduction of the time required by the resident in the workshop. Those who felt comfortable just filled the questionnaires and left. The researcher developed a detailed, standardized manual for the training that allowed the instructor to follow clear directions during the workshop and also use the manual for future trainings. Study data were collected and coded by the research assistant who was not be a part of physician-instructor group or physician-participant group. Lunch and certificate for the training was provided.

### **Training Procedures**

The control group was treated as a "postponed-intervention control group" and will be provided with identical training after the study is completed<sup>55</sup>. The purpose of using a postponed-therapy control group approach is twofold. First, it will create an interest in the upcoming training in control group participants, and secondly, it is ethically appropriate to provide the control group with training that is important for and needed by their profession.

Training materials were photocopied for each participant and put in a file. A note pad and pen were packaged in a A3 envelope and distributed to the experimental group. Two weeks after, the experimental group was invited for a workshop which was held on 10<sup>th</sup> June 2017 in PDN building. Participants filled the instruments within two weeks after the training; the instruments included demographic questionnaire, Self-Efficacy scale, JSPE and PBS and constraining factors instruments were given to each resident-participant to complete, which took approximately 30 minutes.

The data from the training was collected by the research assistant. This researcher provided an educational session for the research assistant, which helped the assistant to collect and store the gathered information by utilizing ethical and humanistic approaches in this study. More specifically, participants' names or other identifying information was not attached to any of the

information gathered in this project. All the information participants provided was identified by a coded number. All information was stored in locked cabinets in the research assistant's office. The only document that contained the participant's name was a consent form that was separated from the rest of the materials. The data collected was used for statistical analyses and no individuals were identifiable from the pooled data. The information obtained from this research may be used in future research and published. However, participants' right to privacy was retained. All data was presented in group format and no individuals will be identifiable from the data.

Demographical data was collected, including the participants' gender, specialty, and years of experience. This data was used to investigate whether there is a statistically significant relationship between participants' demographical data and their mean scores on self-efficacy, empathy, and psychosocial belief instruments. Additionally, demographics collected in this study assisted the researcher in comparison process with other similar studies.

### **Description of the Training Program**

The research utilized the existing SPIKES protocol, which is a part of a communication skills program entitled ONCOTALK, developed by a multidisciplinary panel of experts, including physicians, psychologists, and specialists in communication in medical settings<sup>56</sup>. The Oncotalk program was initially created for medical oncology clinicians and funded by the National Cancer Institute. The authors of this program tailored the content of communication skills training for cancer care setting. However, the program can be adapted to other settings as well. The Oncotalk communication skills training is now available in the book 'The Oncotalk Model' (Arnold, 2010). The overall goal of the project is to help clinicians who are involved in treatment and care of patients with cancer to improve their communication skills. The program utilized the following educational principles: (a) didactic methods of teaching alone are not effective; (b) adult learning approaches were implemented; (c) trainings should include skills practice; (d) learners' attitudes and emotions should be addressed; (e) the most effective learning environment is established when knowledge, skills, and attitudes are included; and (f) reinforcement is critical for the learning process. The trainings included large-group overview presentation, communications skills practice sessions, practice sessions with patients, and reflective group discussions. The goal of the SPIKES protocol is to assist the physician in fulfilling four objectives while delivering unpleasant news to the patient: (a)



eliciting information from the patient, (b) communicating the information related to the patient's condition, (c) supporting the patient, and (d) involving the patient and his or her family in the decision making process. According to Baile and colleagues these goals can be achieved by following six steps, each of which requires utilization of specific interaction skills and can be summarized using the SPIKES mnemonic<sup>7</sup>.

**S = SETUP.** Set up the situation so it has a good chance of going smoothly. Before you go into the room, have a plan in your mind. Sit down, make eye contact, and get reasonably close to the patient. Anticipate that the patient will be upset and have some tissues ready.

**P = PERCEPTION.** Find out the patient's perception of the medical situation. What has he or she been told about the disease? What does he or she know about the purpose of the unfavourable test results you are about to discuss?

**I = INVITATION.** Find out how much information the patient wants.

**K = KNOWLEDGE.** Use language that matches the patient's level of education. Be direct. Avoid using medical jargon as it might confuse the patient.

**E = EMPATHIZE.** Use empathic statements to respond to the patient's emotions. This will assist in patient recovery and dampen the psychological isolation that a patient can experience when he or she hears bad news.

**S = SUMMARIZE AND STRATEGIZE.** Summarize the clinical information and make a plan for the next step<sup>7</sup>.

**Inclusion Criteria:**

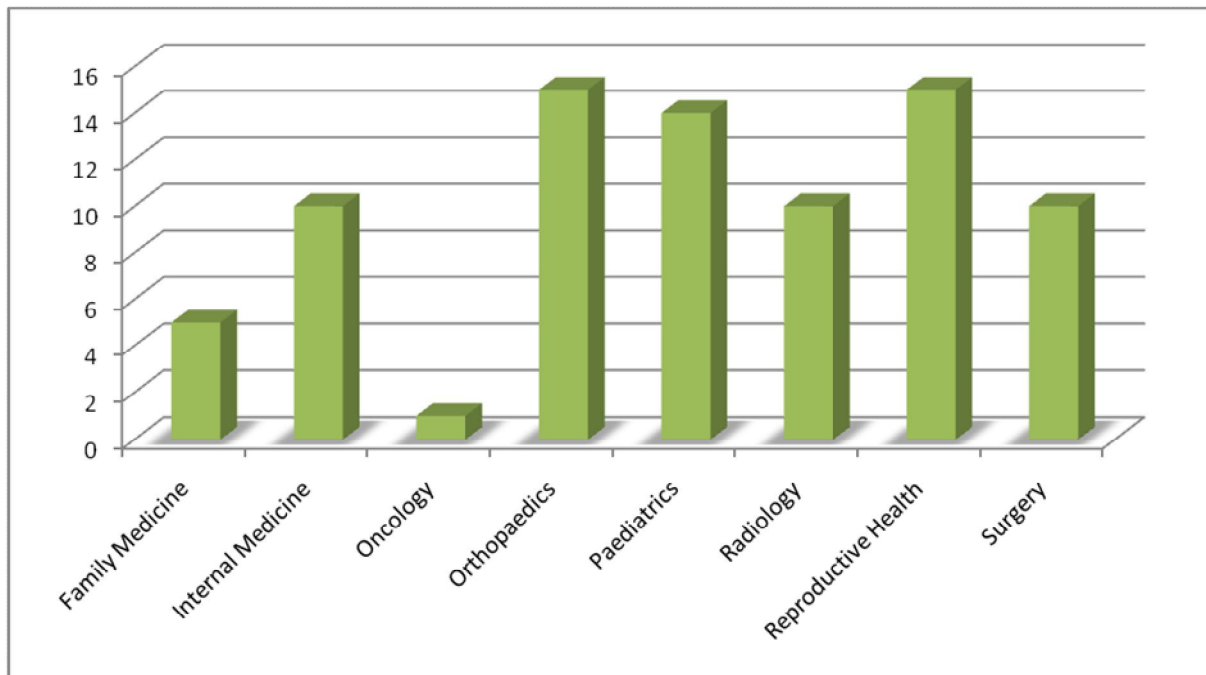
Participants in this study were eligible if they are residents specializing in a postgraduate course with at least two years after undergraduate degree and of experience treating patients in a busy hospital.

**Data Collection Tools**

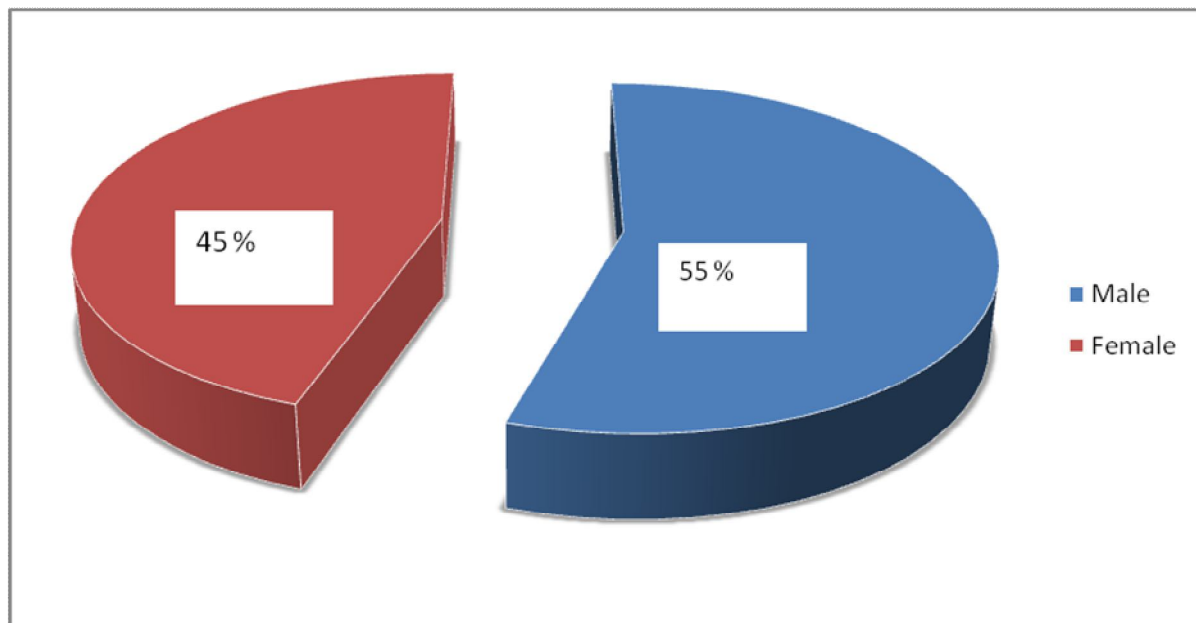
i. **Self-Efficacy scale:** The 21-item 5-point Likert scale self-efficacy instrument ranging from "strongly disagree"<sup>1</sup> to "strongly agree"<sup>5</sup> addresses the confidence of the training participants in their ability to successfully manage skills that relate to delivering bad news to cancer patients. This instrument was developed by Baile as an assessment of SPIKES training with oncologists. A total score is obtained by adding the scores of all items; higher scores will indicate higher self-efficacy in communicating unpleasant news skills. Statistical properties of the Self-Efficacy scale are not provided by the developers of this instrument; however, the authors of the SPIKES protocol indicated that, based on their research over the last eight years, a self-efficacy scale consistently showed improvement in physicians' scores after communication skills training.

ii. **The Physician Belief Scale (PBS)** was developed by Ashworth, Williamson, and Montano and designed to assess physicians' beliefs about the psychosocial characteristics of patient care<sup>57</sup>. The PBS is a 32-item, self-report scale that determines a physician's position in terms of acceptance versus rejection of the psychosocial aspects of patient care. This instrument uses a 5-point Likert scale ranging from "strongly disagree"<sup>1</sup> to "strongly agree"<sup>5</sup>. Overall scores could range from 32, which represents maximum psychosocial orientation, to 160, which indicates minimum psychological orientation.

iii. **The Jefferson Scale of Physician Empathy (JSPE)** was developed by Hojat and measures physicians' empathy in the context of patient care<sup>10</sup>. The JSPE includes 20 items answered on a 7-point Likert scale. The internal consistency of the JSPE's reliability was obtained by calculating Cronbach's coefficient alpha and reported 0.89 for the sample of medical students and 0.87 for the sample of residents.



**Figure 1:** Distribution of residents by departments



**Figure 2:** Gender distribution

A total of 80 coded questionnaires were sent to all departments with postgraduate students in the school of medicine to be filled on a first-come-first-served basis. A total of 80 were returned. Reproductive health students were 15 (18.8%), orthopaedics were 15 (18.8%), paediatrics were 14 (17.5%), radiology 10 (12.5%), Internal medicine 10 (12.5%), family medicine 5 (6.3%) and reproductive health oncology 1 (1.3%). There were more men than women male: 44 (55%) and female 36 (45%). All except one of the participants had worked

below five years after graduation.

Cronbach's alpha was 0.937, which indicates a high level of internal consistency for our scale with this specific sample. JSPE Cronbach's alpha was Cronbach's alpha is 0.375, which indicates a low level of internal consistency for our scale with this specific sample. Finally, PBS Cronbach's alpha was 0.595, which indicates a low level of internal consistency for our scale with this specific sample. There are different reports about the acceptable

values of alpha, ranging from 0.70 to 0.95. A low value of alpha could be due to a low number of questions, poor interrelatedness between items or heterogeneous constructs. For Researcher's cautions about abandoning an instrument based on this Cronbach's alpha scores unless they grounded in the 'tau equivalent model' which assumes that each test item measures the same latent trait on the same scale. Therefore, if multiple factors/traits underlie the items on a scale, as revealed by Factor

Analysis, this assumption is violated and alpha underestimates the reliability of the test.<sup>58</sup>

**Self-Efficacy of Residents in MUSOM/MTRH in Breaking Bad News tasks**

Self-efficacy in breaking bad news tasks questionnaire was given to all residents before training. Test participants were given self-efficacy questionnaire again after training to be completed within two weeks after training.

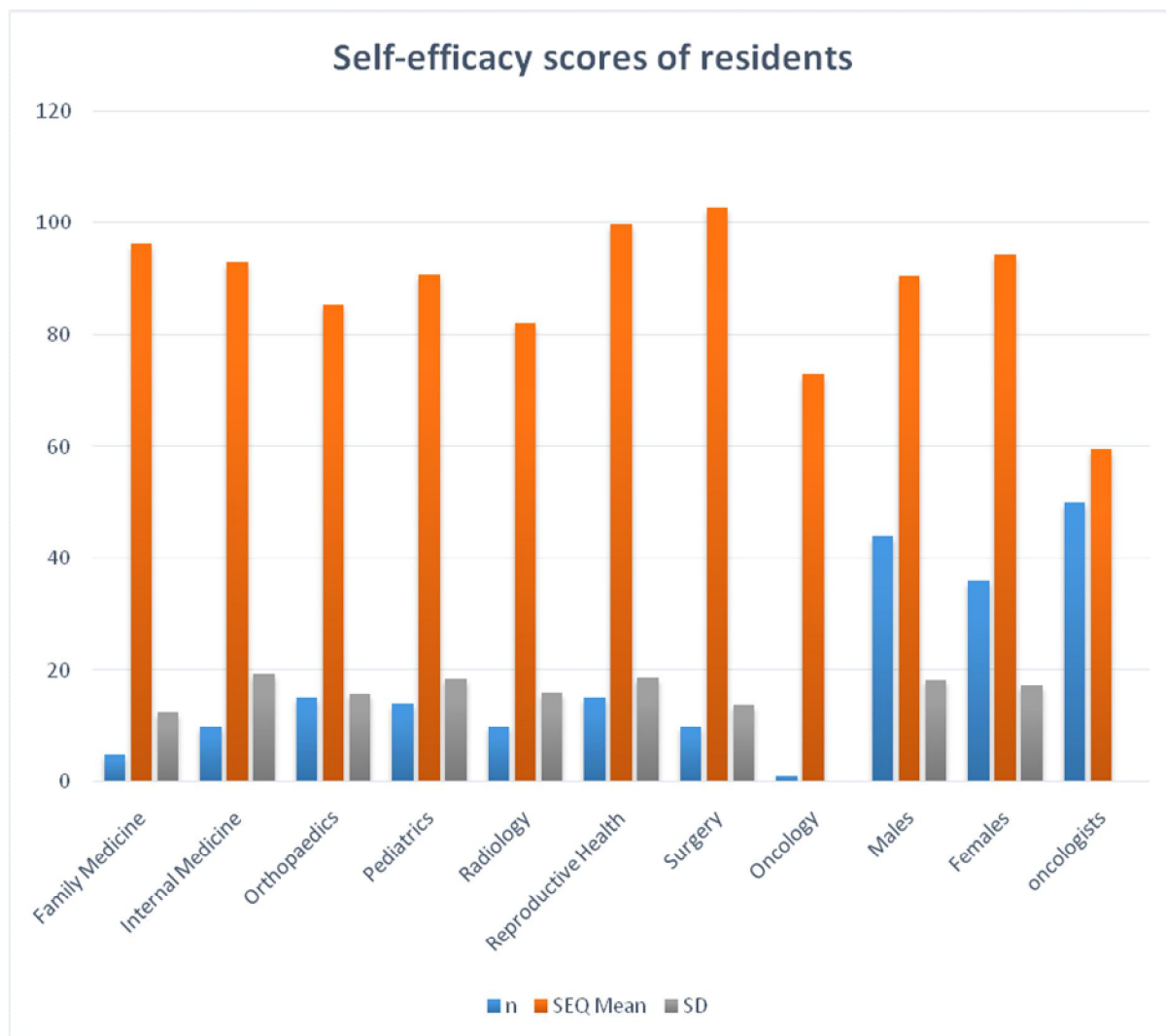


Figure 3: Self-efficacy results

The figure above shows self-efficacy results of the residents. Surgical residents had the highest self-efficacy scores while radiology had the lowest overall scores. Oncology resident in reproductive health was only one and could not be used for comparison. The overall average score was 80.225. To find out if there was a difference in male and female residents scores on self-efficacy, paired t-tests were done and there were no statistically

significant differences between males and female. An independent samples t-test showed a **p** value of **0.566** at P value of 0.05. However, the females had a better self-efficacy score than the males.

To determine the effectiveness of the training, self-efficacy pre-test and post-test were compared in the table below

Group	N	pre-tests	Post-test	SD pre-test	SD post-test	T-test
A	40	90.95	92.24	17.95	18.41	0.715
B	40	88.78	92.80	17.39	18.16	0.061

**Table 2:** Pre and post-test results of tests and control groups

Table 2 above shows mean responses of the two groups; A and B. Group A had a better mean than B before training and after training the means for both groups were almost the same.

A (40),  $p=0.715$  and group B (40),  $p=0.061$ . We conclude that skills training based on SPIKES protocol influences self-efficacy of residents significantly

**Empathy Scores of Residents in MUSOM/MTRH in Breaking Bad News tasks**

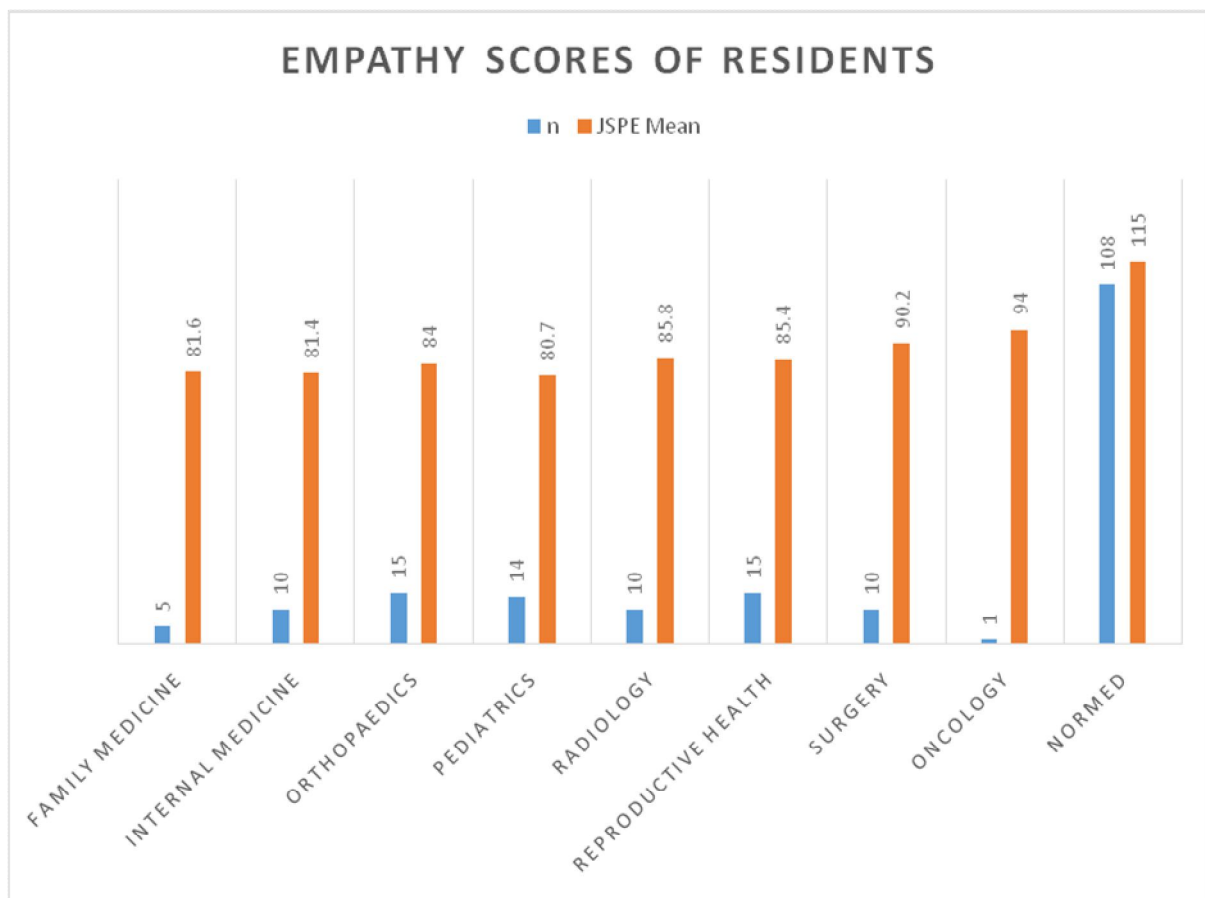
Do residents in MUSOM/MTRH who participate in delivering bad news skills training based on SPIKES protocol demonstrate statistically significant higher empathy scores than those who did not participate in the workshop? It had been hypothesized that there would be no statistically significant higher

empathy scores in residents who participate in skills training based on SPIKES protocol compared to those residents that did not.

The Jefferson scale of Physician Empathy (JSPE) questionnaire was used and residents in group A and B filled the questionnaire before the training and within two weeks after the training.

Figure 4 shows the empathy scores of residents from all departments. The table shows the department of surgery residents have the highest empathy scores while family medicine and internal medicine residents have the lowest scores.

A t-test was done to compare the pre-test and post-test empathy scores of test group and the control group.



**Figure 4:** Empathy (JSPE) scores of residents by departments

Group	JSPE mean scores	SD
Group A	82.78	17.95
Group B	80.61	0.967

Table 3 above shows the JSPE scores of residents after training. The test group were trained while the control group were not trained. However the JSPE questionnaire was filled by the two groups within two weeks after training.

The results of statistical analysis of empathy score results of the trained and the untrained groups. The p value was **0.463** at p value of (P< 0.05) confirming that there is no statistically significant difference between the posttest JSPE scores of trained residents and those that were not, thereby accepting the null hypothesis. We concluded therefore that skills training based on SPIKES protocol does not significantly influence empathy scores in residents.

**Physicians Belief Scores of Residents in MUSOM/ MTRH in Breaking Bad News tasks**

Residents psychosocial orientation was assessed using physician's belief score and the two groups compared after the training.

Figure 5 shows that internal medicine and paediatrics have the best psychosocial orientation while orthopaedics, who have the highest score, have the worst psychosocial orientation among the residents (the higher the score the worse the psychosocial orientation of the resident).

To assess if training improves the psychosocial orientation of residents, post-tests PBS scores were compared for the control and the test group.

Table 4 shows the mean scores of the two groups after training. The test group B had a better psychosocial orientation than the control group. Inferential statistics using paired t-tests did not show a significant difference between the two groups p =0.386 (p =0.005), therefore accepting the hypothesis that there would be no statistically significant difference between the control group and the test group.

Is there statistically significant relationship between gender and department on the one hand and empathy scores, psychosocial orientation of residents and self-efficacy on the other hand in those residents who have been trained based on SPIKES protocol? To determine the relationship between gender and department of origin on the one hand and the self-efficacy, psychosocial orientation and physician's empathy on the other hand.

To answer this question, MANOVA was done on the results of self-efficacy, physician belief scale and physician's empathy, and the gender and department of origin.

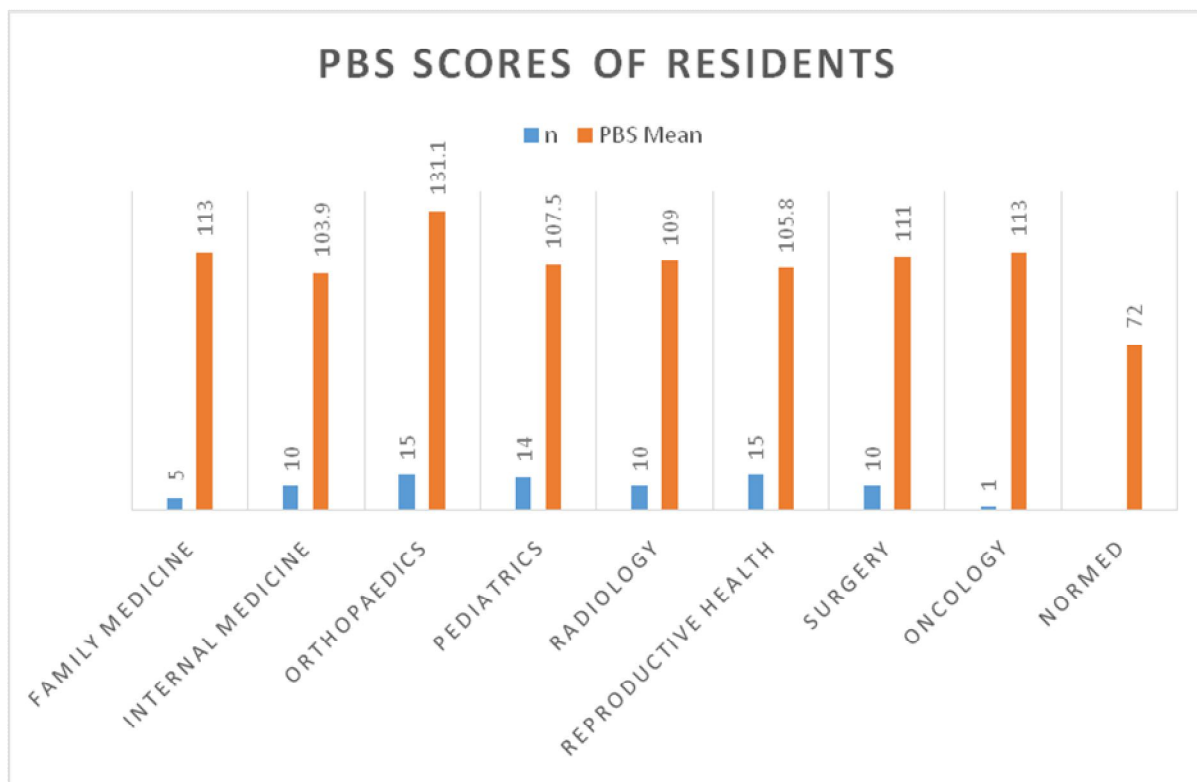


Figure 5: Scores of residents

	Gender	Mean	SD	N
<b>SEQ results</b>	Males	90.48	18.412	44
	Female	94.39	17.248	36
<b>PBS</b>	Male	121.02	32.147	44
	Female	109.83	21.211	36
<b>JSPE</b>	Male	81.77	20.790	44
	Female	87.56	18.162	36

**Table 5:** SEQ, JSPE and PBS based on gender

Table 5 shows the results of SEQ, JSPE and PBS for the whole group based on their gender. There is a general trend that females are better than males SEQ, JSPE and PBS.

There was no statistical significance between gender and Self-Efficacy, JSPE and Physician belief the p values was 0.078 at  $p < 0.05$

Table 6 shows the residents department of origin and their self-efficacy, JSPE and PBS scores. Overall, orthopaedics department residents have the worst psychosocial orientation, internal medicine and family medicine have the highest self-efficacy scores and oncology is leading in JSPE scores.

There was a statistical significance between department and Self Efficacy, JSPE and Physician belief the p values was 0.050 at  $p < 0.05$



Descriptive Statistics				
	Departments	Mean	Std. Deviation	N
Self-Efficacy	Family Medicine	96.40	12.402	5
	Internal Medicine	92.80	19.583	10
	Oncology	73.00	.	1
	Orthopaedics	85.27	15.791	15
	Paediatrics	90.79	18.647	14
	Radiology	82.00	15.958	10
	Reproductive Health	99.87	18.841	15
	Surgery	102.80	13.734	10
	Total	92.24	17.893	80
JSPE	Family Medicine	81.60	11.610	5
	Internal Medicine	81.40	11.088	10
	Oncology	94.00	.	1
	Orthopaedics	84.07	24.746	15
	Paediatrics	80.79	12.980	14
	Radiology	85.80	28.627	10
	Reproductive Health	85.47	20.493	15
	Surgery	90.20	21.984	10
	Total	84.38	19.743	80
Physician belief	Family Medicine	113.00	11.958	5
	Internal Medicine	103.90	24.826	10
	Oncology	113.00	.	1
	Orthopaedics	131.27	31.822	15
	Paediatrics	107.50	17.745	14
	Radiology	109.00	19.400	10
	Reproductive Health	105.87	23.892	15
	Surgery	111.00	17.938	10
	Total	115.99	28.164	80

**Discussion**

**Resident’s Self-Efficacy in Breaking Bad News tasks**

This study investigated self-efficacy of residents in breaking bad news tasks and whether residents who participate in a skill training workshop demonstrated statistically significant higher self-efficacy scores, compared to residents who did not participate in the workshop. It had been hypothesized that (HO1) there would be no

statistically significant difference in self-efficacy scores within residents, in their respective experimental and control groups, pre- and post-training. This hypothesis was rejected as there was a significant difference between the control and the test group. Self-efficacy scores of residents using self-efficacy scale average score 80.225 which was relatively higher than scores of other studies like the one of Hudley<sup>59</sup> in Uzbekistan a former Soviet Union Republic where the scores by oncologists were 59.32. These results indicate that residents are much more confident in breaking of bad news than

oncologists in Former Soviet Union. While no claims can be made for their actual performance in practice, their perceptions of competency would indicate that the extensive and compulsory undergraduate teaching on this subject has served to prepare them for this difficult task. Residents' self-efficacy skills scores, as measured by Self-Efficacy Scale, increased significantly from pre-test to post-test conditions. These findings align with results of numerous studies conducted by the Oncotalk Models team, the authors of the SPIKES protocol<sup>17, 60</sup>. These studies by Oncotalk team were not controlled studies and the results should be interpreted with caution<sup>61</sup>. In the current study, pre-test/post-test randomised study design was utilized. Similar study by Hudley G. modelled above utilized the same design and the results showed improvement in self-efficacy.

The effectiveness of the communication training workshop for residents in this study was measured solely by utilizing self-rating questionnaires. Sensitivity for response bias of the residents' self-rating was recognized by this researcher. Therefore, the findings in this study were analysed and conclusions were made with caution. As Hulsman and colleagues<sup>52</sup> and Fallowfield and Jenkins<sup>62</sup> concluded, post-training improvements on self-reported questionnaires may not only be the result of a training effect, but may also be an indication of participants' desire to show that the offered training workshop was useful. These authors also suggested that improvements in scores by using self-report instruments may not provide evidence of effective transfer of learned skills into the clinical practice<sup>63,64</sup>. The Oncotalk model developers recognized limitations of the utilization of self-report instruments and are making efforts to develop strategies to evaluate the effectiveness of the program by measuring patient outcomes<sup>61</sup>.

During the review of literature regarding physician-patient communication a number of studies utilizing a randomized controlled trial were limited and the findings were conflicting. A five-day workshop of 50 primary care physicians showed an absence of any training effect on participants<sup>65</sup>. A 10-hour communication skills program for 69 primary care physicians, surgeons, and nurse practitioners conducted in Portland, Oregon showed statistically significant improvements in clinicians' self-efficacy skills, but did not show improvements in patient's satisfaction with physician's performance ratings<sup>29</sup>. Another three-day communication skills training workshop for 61 UK clinical nurse specialists showed significant positive changes in nurses' communication skills competence<sup>66</sup>.

Finally, the method of training residents in this study - 'flipped classroom' approach followed by a workshop - has not been used in other studies before. However, the participants were able to gain knowledge and confidence in verbal and non-verbal communication skills (cognitive component), rehearse new skills required through the role-play using real patients activities (behavioural component), and, finally, explore and discuss the feelings that the role-play evoked with peers and trainers during the workshop (affective component). Audio or videotaping of the role-play performances of participants for assessment purposes could have been a good way to judge performance. However this was not possible due to the high cost of resources and logistics required. As Hulsman and colleagues<sup>52</sup> suggested, behavioural observations via audio or video taping with real or standardized patients would add many advantages to the study. In a study by Ley P.<sup>67</sup> doctors think they may have broken the news, the message may not have been received or, at least, retained by the patient, or the truth may be masked by euphemisms or language too technical for the patient to understand.

### **Residents' Empathy**

In the literature reviewed<sup>68</sup>, study - 'flipped classroom' approach followed by a workshop - has the importance of empathy skills for physicians was emphasized and it was suggested that an empathic goal for a clinician is to concentrate on caring and demonstrating politeness toward the patient. Banja<sup>68</sup> continued that the combination of medications and interventions with the use of an empathic physician-patient relationship can enhance the therapeutic potential for the patient.

The average empathy scores for the entire group sample (2N = 80) in present study were lower M=85.4, compared to the normative sample (M = 115)<sup>69</sup>. These results might be an indication of lower "humanistic" skills in our residents. These findings should be interpreted carefully though due to the fact that the instrument was developed and normed in the USA which is different from the African population and culture. The post-test results on the empathy scale in this study showed that there was no significant difference between the experimental group and the control group.

Some studies that provide educational programs have reported improvement in empathy skills. Examples in literature include; a study of 130 medical students in Israel showed that a course in psychiatry increased their scores on Mehrabian and Epstein's Emotional Empath Scale<sup>70</sup>, scores on Carkhuff's Empathic Understanding in Interpersonal Process Scale increased in 97 medical students at

the University of Missouri School of Medicine after attending empathy training<sup>71</sup>.

The findings in this study are similar to other studies where there are inconsistencies about how amenable empathy is to educational intervention among medical students and physicians. Some researchers believe that empathy is a personality state that can decline during medical education but can also be improved by targeted educational activities. Salvatore M. et al. concluded that the findings suggest that empathy is a relatively stable trait that is not easily amenable to change in residency training programs. The issue of whether targeted educational activities for the purpose of cultivating empathy can improve empathy scores awaits empirical scrutiny<sup>72</sup>.

### **Residents' Psychosocial Orientation**

The results of this study showed that participants' attitudes toward a psychological approach to patients with cancer as measured by the Physician Belief Scale did not significantly improve after the training workshop. Both Pre-training and post training scores on the PBS suggested that residents were not confident about the importance of the psychosocial aspects in cancer. Studies done by McLennan and associates<sup>73</sup> and Jenkins and Fallowfield<sup>62</sup> found that there was a significant improvement in physician's psychosocial orientation after a three day residential training<sup>62</sup>. In the present study residents were only accorded one day discussion workshop and two weeks self-directed learning and role playing using real patients. The duration of training and the method of training may have contributed to the observed findings in this study. In this study internal medicine and paediatrics had the best psychosocial orientation while orthopaedics had the worst psychosocial orientation among the residents. Studies by Ashworth *et al.*<sup>74</sup> found for their norming sample (N = 180), that psychiatry and internal medicine had higher psychosocial orientation the United States, similar to what we found except that our population did not have psychiatry residents. Orthopaedic surgery had the lowest psychosocial orientation towards patient psychosocial factors, similar to other studies where specialties were compared, this include that done by Hojat *et al.* where orthopaedics had the lowest empathy scores and by extension psychosocial orientation<sup>75</sup>. This finding could be the contributing factor in choosing a speciality or acquired characteristics in the speciality.

### **Relationship between the Variables and Residents' Department and Residents' Gender**

The fourth question in this study investigated whether there is a statistically significant relationship

between residents' gender, resident's department and residents' self-efficacy, interpersonal skills, empathy, and psychosocial belief scores. It was hypothesized that (HO<sub>4</sub>) there would be no statistically significant relationship between participants' age and years of experience and their self-efficacy, interpersonal skills, empathy, and psychosocial belief scores at both pre-test and post-test. The results of correlation analysis for the entire sample (N = 80) in the present study showed no statistically significant relationship between participants' gender and self-efficacy and psychosocial beliefs measures at pre-test in the experimental group. There was no statistically significant mean differences in self-efficacy scores between genders for neither experimental nor for the control group at pre-test and post-test p value was 0.078 at p<0.05. There was statistically significant deference between residents department and variables of interest (self-efficacy, JSPE scores and PBS scores) p value of 0.05 at p<0.05. Further analysis shows that orthopaedics department residents have the lowest psychosocial orientation of who scored 131.27 (normed score is 72.1). Generally, the psychosocial orientation in this study was generally poor as the average score was 115.99 with normed score of 72.1. As alluded earlier, other studies seem to suggest that training intervention improves the psychosocial orientation of physicians<sup>59,62</sup>. This may require further investigation to find out the cause of poor psychosocial orientation of residents in our study.

### **Recommendations and Conclusion**

The overall findings of this study have general implications for research and clinical practice. The results indicated that the training workshop for residents was effective in improving residents' communication skills in breaking bad news. Though empathy and psychosocial aspects are important in cancer treatment, a one-day workshop may not be sufficient. Targeted training is required to adequately improve the important attributes involved in physician-patient interaction. Significant improvement was found for self-efficacy rating in relation to delivering bad news situations. It is therefore recommended that as an immediate remedial measure workshops like the one used in this can be used to equip residents with skills to do this frequent task during their training.

The lack of improvement in their psychosocial beliefs scale indicates that physicians do not support the importance of the psychosocial aspects in cancer care and they perhaps have remained in the traditional biomedical model in health care utilized in Kenya. It is recommended that empathy training specifically should be included in the curriculum.

This study also supports the effectiveness of the SPIKES protocol in a different cultural setting. Despite the distinct differences in academic structure, health care system, and culture between the USA and Kenya, it is evident that this program can be adapted with successful results. The findings in this study support results demonstrated in similar research which utilized SPIKES protocol conducted not only in the USA, but also in Portugal, Spain, and Italy<sup>76</sup>. These guidelines could be adopted for use in breaking bad news training of both residents and undergraduate students.

Additionally, it was the first such training to utilize a 'flipped classroom approach' in training residents in breaking bad news skills, where training materials were given to one group to be used in their usual small group activities using real patients as role play and invited to a one-day workshop with peer discussions in the presence of a trainer and the researcher.

### References

1. WHO. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference. Official Records of the World Health Organization, no. 2, p. 100). 1948.
2. Engel G. The essence of the biopsychosocial model: from 17th to 20th century science. A challenge for biomedicine. 1990:13-8.
3. Nadelson CC. Ethics, empathy, and gender in health care. The American journal of psychiatry. 1993;150(9):1309-14.
4. Schildmann J, Cushing A, Doyal L, Vollmann J. Breaking bad news: experiences, views and difficulties of pre-registration house officers. Palliative medicine. 2005;19(2):93-8.
5. Mast MS, Kindlimann A, Langewitz W. Recipients' perspective on breaking bad news: how you put it really makes a difference. Patient education and counseling. 2005;58(3):244-51.
6. Hanratty B, Lowson E, Holmes L, Grande G, Jacoby A, Payne S, et al. Breaking bad news sensitively: what is important to patients in their last year of life? BMJ supportive & palliative care. 2012;2(1):24-8.
7. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—a six-step protocol for delivering bad news: application to the patient with cancer. The oncologist. 2000;5(4):302-11.
8. Brown R, Dunn S, Byrnes K, Morris R, Heinrich P, Shaw J. Doctors' stress responses and poor communication performance in simulated bad-news consultations. Academic Medicine. 2009;84(11):1595-602.
9. Maguire P, Pitceathly C. Key communication skills and how to acquire them. Bmj. 2002;325(7366):697-700.
10. Hojat M, Samuel S, Thompson T. Searching for the lost key under the light of biomedicine: A triangular biopsychosocial paradigm may cast additional light on medical education, research and patient care. Medicine & health care into the 21st century. 1995:310-25.
11. Silverman J, Kurtz S, Draper J. Teaching and learning communication skills in medicine: CRC press; 2016.
12. Takayama T, Yamazaki Y, Katsumata N. Relationship between outpatients' perceptions of physicians' communication styles and patients' anxiety levels in a Japanese oncology setting. Social science & medicine. 2001;53(10):1335-50.
13. Weeks JC, Cook EF, O'day SJ, Peterson LM, Wenger N, Reding D, et al. Relationship between cancer patients' predictions of prognosis and their treatment preferences. Jama. 1998;279(21):1709-14.
14. Spiro H. What is empathy and can it be taught? Annals of internal medicine. 1992;116(10):843-6.
15. Spiro HM, Curnen MGM, Peschel E, James DS. Empathy and the practice of medicine: beyond pills and the scalpel: Yale University Press; 1996.
16. CHRISTAKIS NA. Do clinical clerks suffer ethical erosion? Students' perceptions of their ethical environment and personal development. 1994.
17. Lu MC. Why it was hard for me to learn compassion as a third-year medical student. Cambridge Quarterly of Healthcare Ethics. 1995;4(4):454-8.
18. Duffy FD, Gordon GH, Whelan G, Cole-Kelly K, Frankel R. Assessing competence in communication and interpersonal skills: the Kalamazoo II report. Academic Medicine. 2004;79(6):495-507.
19. WHO. Cancer in Developing countries. The international network for Cancer treatment and Research. 2016.
20. Kurtz S, Silverman, J., & Draper, J. Teaching and learning communication skills in medicine. Abingdon OX UK: Radcliffe Publishing; 2005.
21. Razavi D, & Delvaux, N. Communication skills and psychological training in Oncology. uropean Journal of Cancer. 1997;33, 515-21.
22. Kurtz S, Silverman, J., & Draper, J. . Teaching and learning Communication Skills in Medicine. Abingdon, OX, UK: Radcliffe Publishing. 2005.
23. Liu JE. The development and evaluation of a communication skills training program for registered nurses in cancer care in Beijing, China. Dissertation, Abstracts International. 2005:54 (1).

24. Back AL, Arnold, R. M., Baile, W. F., Fryer-Edwards, K. A, Alexander, S. C., Barley, G. E. et al. Efficacy of communication Skills Training for Giving Bad News and Discussing Transition to Palliative Care. *Archives of Internal Medicine*. 2007;67, 453-60.
25. Baile WF, Lenzi, R. et al. SPIKES- A six step protocol for delivering bad news: application to the patient with cancer. *Oncologist*. 2000;5 (4), 302-11.
26. Ford S, & Hall, A. Communication behaviours of skilled and less skilled oncologists: a validation study of the medical interaction process system (MIPS). *Patient Education and counselling*. 2004;54, 275-82.
27. Maguire P. Improving communication with cancer patients. *European Journal of cancer*. 1999;35 (14) 2058-65.
28. Rees C, Sheard, C., & McPherson, A. Medical students' views and experiences of methods of teaching and learning communication skills. *Patient education counselling*. 2004;54 (1) 119-21.
29. Brown JB, Boles, M., Mullooly, J. P., & Levinson, W. Effect of clinician communication skills training on patient satisfaction. A randomized, controlled trial. *Annals of Internal Medicine*. 1999;13 (1), 822-9.
30. Roter DL, & Hall, J. A. Physicians' interviewing styles and medical information obtained from patients. *Journal of general internal medicine*. 1987;2, 325-9.
31. Oblinger DG. *Educating the Net Generation: Educause*; 2005.
32. Mehta NP, Hull, A. L., Young, J. P., & Stoller, J. K. Just imagine: New paradigms in medical education. *Academic Medical* 2013;88 (10) 1418-23.
33. McDonald K, & Smith, C. M. The Flipped classroom for professional development: part 1 benefits and strategies. *Journal of continuing Education Nursing*. 2013;44 (10) 437-8.
34. Cheng X, Kao, Lee, K., Chang, E. Y., & Young, X. 'Flipped classroom' approach: Stimulating positive learning attitudes and improving mastery of histology among medical students. *Anatomical Sciences Education*. 2017;10 (4), 317-27.
35. Tune JDS, M. & Basile, D. P. Flipped classroom model improves graduate student performance in cardiovascular, respiratory and renal physiology. *advances in physiology education*. 2001;37 (4) 316-20.
36. Fox J, Faber, D., Pkarsky, S., Zhang, C., Riley, R., Mechaber, A., Kirsner, R. S. Development of Flipped Medical School Dermatology Module. *Southern Medical Journal*. 2017;110 (5), 319-24.
37. Lin Y, Zhu, Y., Chen, C., Wang, W., Chen, T., Lu, L. Facing challenges in ophthalmology clerkship teaching: Is 'flipped classroom' the answer? *PlosOne*. 2017;12 (4)
38. Rui Z, Lian-rui, X., Rong-Zheng, Y., Jing, Z., Xuehong, W, & Chuan, Z. Friend or Foe? Flipped classroom for undergraduate electrocardiogram learning: a randomized controlled study. *BMC Medical Education*. 2017;17 (1) 53.
39. Domínguez LC, Vega, N. V., Espita, E. L., Sanabrai, A. E., Corso, C., Serna, A. M., & Osorio, C. Impact of 'flipped classroom' strategy in learning environment in Surgery: A Comparison with lectures. *Biomedica*. 2015;35 (4), 513-21.
40. Ramnanan CJ, Pound LD. Advances in medical education and practice: student perceptions of the flipped classroom. *Adv Med Educ Pract*. 2017;8:63-73.
41. Pierce R, Fox J. Podcasts and Active-Learning Exercises in a "Flipped Classroom" Model of a Renal Pharmacotherapy Module. *American Journal of Pharmaceutical Education*. 2012;76 (10):196.
42. Gilboy MB, Heinerichs S, Pazzaglia G. Enhancing student engagement using the flipped classroom. *Journal of nutrition education and behavior*. 2015;47(1):109-14.
43. Ramnanan CJ, & Pound, L. D. Advances in Medical Education and Practice: Student perceptions of Flipped Classroom. *Advances Medical Education Practice*. 2017;8, 63-73.
44. Granero LA, Ezequiel, O. D. S., Oliveira, I. N. D., Moreira-Almeida, A. & Luchetti, G. Using traditional and flipped classrooms to teach 'Geriatrics and Gerontology' Investigating the impact of active learning of medical students' competences. *Medical Teacher*. 2018:1-9.
45. Makoul G. Essential elements of communication in medical encounters: the Kalamazoo consensus statement. *Academic Medicine*. 2001;76(4):390-3.
46. Bandura A. *Social learning theory*. Social learning theory. NJ: Prentice-Hall; 1977.
47. Laschinger HKS. Undergraduate Nursing Students health promotion counselling self-efficacy. *Journal of advanced nursing*. 1996;26, 36-41.
48. Chako SB, & Hub, A. Academic achievement among undergraduate nursing students: The development and test of causal model. *Journal of Nursing Education*. 1991;30, 267-73.
49. Stajkovic AD, & Luthans, F. Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*. 1998;124 (2) 240-61.
50. Moritz SEF, Fahrbach, K. R., & Mack, D. E. The relation of self-efficacy measures to sport performance: Meta-analytic review. *Research Quarterly for exercise and sport*. 2000;71 (3) 280-95.

51. Cegala DB, S. L. Physician communication Skills training: review of theoretical backgrounds, objectives and skills. *medical education*. 2002;36, 1004-16.
52. Hulsman R, Ros, W. G., Winnubst, A. M., & Bensing, J. M. Teaching clinically experienced physicians communication skills: A review of evaluation studies. *Medical Education*. 1999;33, 655-65.
53. Gurmu E. Quantitative research. Methodology workshop. Moi University : Organization of social sciences Research in East Africa (OSSREA). 2011.
54. Kothari CR. *Research methodology: Methods and techniques*: New Age International; 2004.
55. Campbell DT, Stanley JC. *Experimental and quasi-experimental designs for research*: Ravenio Books; 1963.
56. Back AL, Arnold RM, Baile WF, Fryer-Edwards KA, Alexander SC, Barley GE, et al. Efficacy of communication skills training for giving bad news and discussing transitions to palliative care. *Archives of internal medicine*. 2007;167 (5):453-60.
57. Ashworth CD, Williamson P, Montano D. A scale to measure physician beliefs about psychosocial aspects of patient care. *Social science & medicine*. 1984;19(11):1235-8.
58. Green SB, & Salkind, N. J. *Usins SPSS for windows and Macintosh: Analyzing and understanding data.*: Prentice Hall press; 2010.
59. Hudley G. The effectiveness of "delivering unfavorable news to patients diagnosed with cancer" training program for oncologists in Uzbekistan. The effectiveness of "delivering unfavorable news to patients diagnosed with cancer" training program for oncologists in Uzbekistan. Florida: University of Central Florida; 2008.
60. Back AL, Arnold RM, Tulsy JA, Baile WF, Fryer-Edwards KA. Teaching communication skills to medical oncology fellows. *Journal of clinical oncology*. 2003;21(12):2433-6.
61. Back AL, Arnold, R. M., Tulsy, J. A., Baile, W. F., & Fryer-Edwards, K. A. *Journal of clinical oncology*. 2003;21 (12), 2433-6.
62. Fallowfield L, & Jenkins, V. Communicating sad, bad, and difficult news in Medicine. *The Lancet*. 2004;363, 12-19.
63. Hulsman R, Ros W, Winnubst J, Bensing J. Teaching clinically experienced physicians communication skills. A review of evaluation studies. *Medical education*. 1999;33(9):655-68.
64. Fallowfield L, Lipkin M, Hall A. Teaching senior oncologists communication skills: results from phase I of a comprehensive longitudinal program in the United Kingdom. *Journal of Clinical Oncology*. 1998;16(5):1961-8.
65. Levinson W, Roter, /d., Mullooly, J. P., Dull, V. T., & Frankel, R. M. Physician-Patient communication: The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277 (7) 553-9.
66. Heaven C, Clegg, J., & Miguire, P. Transfer of communication skills training from workshop to workplace: The impact of clinical supervision. *Patient Education Counselling*. 2006;60 (3) 313-25.
67. Ley P. Satisfaction, Compliance and Communication. *British Journal of Clinical Psychology*. 1982;21 (4) 241-54.
68. Banja JD. Empathy in the physicians pain practice: Benefits, barriers and recommendations. *Pain Medicine*. 2006;7 (3), 265-75.
69. Hojat M, Erdmann, J. B., Frisby, A. J., Veloski, J. J., & Gonnella, J. Assessing physicians' orientation towards lifelong learning. *Journal of General Internal Medicine*. 2006;21 (9) 931-6.
70. Elizur A, & Rosenheim, E. Empathy and attitudes among medical students: the. *Journl os Medical Education*. 1992;57, 675-83.
71. Feighny KM, Monaco, M., & Arnold, L. Empathy training to improve physician-patient communication skills. *Academic Medicine*. 1995;70 (5) 435-6.
72. Mangione S, Kane, G. C., Caruso, J. W., Gonnella, J. S., Nasca, T. J., & Hojat, M. Assessment of Empathy in different years of internal medicine training. . *Medical Teacher*. 2002;24 (4) 370-3.
73. McLennan J, Jansen-McWilliams, L., Comer, D., Gardener, W., Kelleher, K. The physician belief scale and psychosocial problems in children: a report from the pediatric research in office settings and the ambulatory sentinel practice network. *Journal of Developmental and Behavioral Pediatrics*. 1999;20, 4-30.
74. Answorth C, D., Williamson, P., & Montano, D. A scale to measure physician beliefs about psychosocial aspects of patient care. *Social Science and Medicine*. 1984;19 (1), 1235-8.
75. Hojat M, Gonnella, J. S., Nsaca, T. J., Mangione, S., Vergare, M., & Magee, M. Physician Empathy: Definition, components,, measurement and relationship to gendr and speciality. *Amercian Journal of Psychiatry*. 2002;159 (9) 1563-9.
76. Grassi L, Travado, L., Gil, F., Campos, R., Lluch, P., & Baile, W. A communication intervention for training southern European oncologists to recognize psychosocial morbidity in cancer. *Journal of Cancer Education*. 2005;20, 79-84.



The World Journal of Medical Education & Research (WJMER) is the online publication of the Doctors Academy Group of Educational Establishments. It aims to promote academia and research amongst all members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from all parts of the world. The journal intends to encourage the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting-edge technology and those who need to innovate within their resource constraints. It is our hope that this interaction will help develop medical knowledge & enhance the possibility of providing optimal clinical care in different settings all over the world.



# WJMER

**World Journal of Medical Education and Research**

An Official Publication of the Education and Research Division of Doctors Academy

ISBN 978-93-80573-06-9



9 789380 573069 >