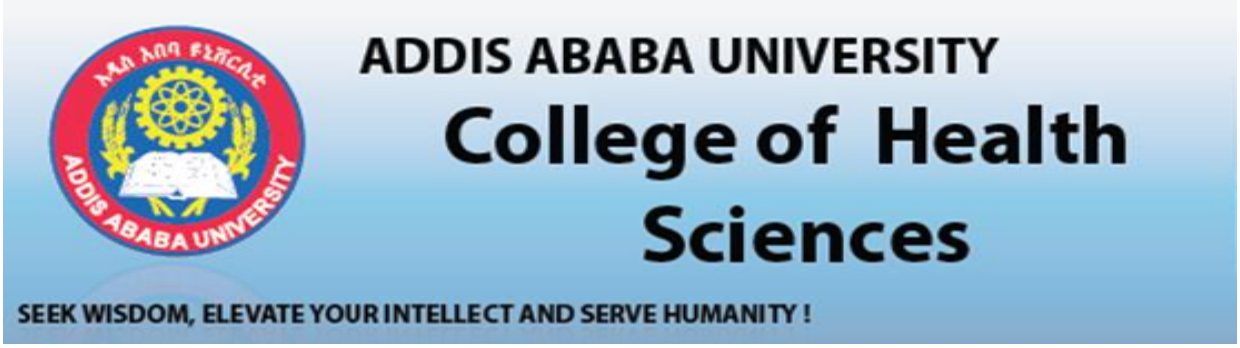


**PROTOCOL BASED BREAKING BAD NEWS: AWARNESS AND PRACTICE AMONG RESIDENT PHYSICIANS WORKING IN TIKUR ANBESSA SPECIALIZED HOSPITAL, COLLEGE OF HEALTH SCIENCE, ADDIS ABABA UNIVERSITY**

# A Research Report

**Principal Investigator:**

Dr. Amir Nuri (OBGYN Resident)

**Advisors:**

Dr. Abdu Mengesha (MD, Assistant Professor of OB-GYN and REI Sub specialist, AAU, CHS)

Dr. Abera Bedada. (MD, Assistant Professor of OBGYN, AAU, CHS)

Thesis to be submitted to the Department of Obstetrics and Gynecology, School of Medicine, Addis Ababa University in partial fulfillment of the requirements for the Specialty Certificate in Obstetrics and Gynecology.

July, 2023GC

Addis Ababa, Ethiopia

## Addis Ababa University

## College of Health Science, Department of Obstetrics and Gynecology

## POSTGRADUATE PROGRAM

I, Dr. Amir Nuri, hereby declare that this research report entitled "Protocol Based Breaking Bad News: Awareness and Practice Among Resident Physicians Working in Tikur Anbessa Specialized Hospital" in line with the requirement of graduate studies was fully undertaken by me under the guidance of my advisors and that I have, to the best of my knowledge and effort, avoided plagiarism or duplication of materials unless and otherwise cited and/or acknowledged and that it has not been so far submitted for any form of research application or consideration.

Dr. _____ _____ _____

Principal investigator Signature Date

We hereby certify that we have read and evaluated this research report relating "Protocol Based Breaking Bad News: Awareness and Practice Among Resident Physicians Working in Tikur Anbessa Specialized Hospital" under our guidance from its inception up to in its current format INCLUDING ETHICAL ISSUES and that it can be submitted to the DRPC for further administrative processing & documentation of the research report by the Department as part of the resident's research undertaking for his/ her partial fulfillment to the Degree of Specialty in Obstetrics and Gynecology.

_____ _____ _____

1. Advisor Signature Date

_____ _____ _____

2. Advisor Signature Date

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# Abbreviations and Acronym

ABCDE: Advance, Preparation, Build a Therapeutic Environment, Communicate Well, Deal with Patient and Family Reactions, Encourage and Validate Emotion

AAU: Addis Ababa University

BBNs: Breaking Bad News

BREAKS: Background, Rapport, Explore, Announce, Kindling, Summarize

CHS: College of Health Sciences

DDNs: Delivery of Difficult News

ENT: Ear, Nose and Throat

HIV: Human Immune -deficiency Virus

NCD: Non-Communicable Disease

SPIKES: Setting, Perception, Invitation, Knowledge, Emotion, Summary and strategy

SPHMMC: St. Paul's-Hospital-Millennium-Medical-College

SPSS: Statistical Package for Social Science

SSA: Sub-Saharan Africa

TASH: Tikur Anbessa Specialized Hospital

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# Abstract

## Background

Effective communication is at 'the heart of the art of medicine, and it is recognized that in developing countries, with inefficient health care systems, the emphasis to foster better communication is lacking. Skillful delivery of bad news can provide comfort for the patient and family. There is a widespread problem with physicians' and students' skills and knowledge on standardized ways of Breaking Bad News (BBN). Improvements are needed on knowledge, attitude, skill and practice of protocol-based BBN such as the Setting, Perception, Innovation, Knowledge, Emotion, Summary and strategy (SPIKES) protocol. Data regarding practicing such protocols is little in Ethiopia and in developing countries as a whole. This study will determine resident physician's awareness and practice of protocol-based BBN in the different specialty fields of Tikur Anbessa Specialized Hospital (TASH), and serve as an evidence-based input to improve medical curriculum design.

## Objective

The overall objective of the study is to assess the awareness and practice of protocol-based BBNs among resident physicians working in TASH in Addis Ababa, Ethiopia.

## Methods

An institutional based cross-sectional survey was conducted among resident physicians working in 9 major departments of TASH: Internal Medicine, Surgery, Pediatrics, Orthopedics, Oncology, Obstetrics and Gynecology, Anesthesiology, Emergency Medicine and Family Medicine from April 28, 2023 to July 10, 2023-. Study subjects from each department were allocated based on their number of total residents. The study subjects from each department were selected using simple random sampling technique. Data was collected using both online and self-administered semi-structured questionnaire, and presented in frequency distribution tables & figures. To identify the determinants correlating with the protocol-based BBNs, chi square test was done, and bivariable & multivariable logistic regression analysis were performed to check

for their association. Adjusted odds ratios (AOR) with 95% CI were estimated to assess the strength of associations and statistical significance was declared at a p-value < 0.05.

## Results

In this study 284 resident physicians were included making a response rate of 100%. Two-third (65%) of the study participants were in the age group of ≤30 years. Male constituted 69 % and 73.2% were single. Twenty percent of the participants were obstetrics and gynecology residents followed by internal medicine (17.3%). Majority (72.9%) of the participants had ≤5 years of experience in medical practice, and only 23.6% had received BBN training. More than one-third (39%) of them were year two residents followed by year three (36%) and year one residents (19%). Ninety-one percent of the study participants had involved in delivering bad news to patients/family, and majority (81.5%) didn't use any protocol during BBNs. Eighty three percent of the study participants feel stressful during BBNs and 58.8% had bad experience after BBNs. Overall 59% and 48% of resident physicians had good knowledge on protocol-based BBNs and SPIKES protocol adherence/Practice respectively. Field of specialization, experience in medical practice (AOR=2.6, 95%; CI=1.39, 4.86), and having training on BBNs (AOR=3.7, 95%; CI=1.84, 7.6) had an association with the adherence on SPIKES protocol based BBNs. The present study also showed that having bad experience (AOR=5.0, 95%; CI=1.95, 7.09) and feeling stressful during BBNs (AOR=3.9, 95%; CI=1.99, 8.00) had a statistically significant relationship with level of training on BBN.

## Conclusion & Recommendation

Awareness and SPIKES protocol adherence is generally poor among resident physician. Majority of the resident physicians didn't follow any protocol during BBNs. Delivering bad news is a challenging activity, and can lead to feelings of depression, stressful and violence. Field of specialization, experience in medical practice and having training on BBNs had an association with the adherence on SPIKES protocol-based BBNs. This study also found that having bad experience and feeling stressful during BBN had a statistically significant relationship with the level of training on BBN. Effective training has important roles in physician's development of good BBNs skills, hence we recommend incorporating BBNs skills training in the curriculum of postgraduate programs across all deciplines/specialities.

# 1. INTRODUCTION

## 1.1. Background

Delivering serious, bad or life-altering news to a patient is one of the most difficult tasks physicians encounters (1). It is the "foundation of the therapeutic relationship and the most common procedure" in all forms of patient care, which can affect the patients' faith in their doctors as well as their compliance with their management instructions (8, 13).

BBN is defined as any news that adversely and seriously alter a patient's view of his or her future, which may include information related to a chronic disease (e.g., diabetes mellitus), a life-altering illness (e.g., multiple sclerosis), an injury leading to significant change (e.g., a season-ending), or a diagnosis of a fetal anomaly (e.g., sever fetal hydrocephalus) (1,2,5). It is possible to include in the definition of bad news other conditions in which there is "a feeling of no hope" or "a message is given which conveys to an individual fewer choice'' (17). All bad news, therefore, has serious adverse consequences for patients and families. Basically, the impact of bad news is proportional to its effect in changing the patient's expectations (3). People have varying responses when receiving bad news. Some common ones are Denial, Shock, Anger, Guilt, Blame, Agitation, Helplessness, Sense of unreality, Misinterpreting information and Regret/anxiety (11).

Despite marked advancements in medicine, not all patients can be cured. Skillful delivery of bad news can provide comfort for the patient and family. Communications courses, standardized patient scenarios, and interactive computer courses have all demonstrated improvement in physician communication skills (1). The three goals to effective communication are: establishing good interpersonal relationship, encouraging effective information exchange and allowing for shared decision making (18). The communication of bad news can also be seen as a multidisciplinary activity which requires the active involvement of a wide range of healthcare professionals working as a team. SPIKES, ABCDE & BREAKS protocols are widely used for breaking bad news (11).

**SPIKES**: is one of the most used protocols for delivering bad news and it is the one that provide a framework that improve skill acquisition for bad news communication. (35) It describes six steps of communication. The first step "**S**", or setting up, refers to preparation of the medical environment. The place where such news is given should preferably be private, reserved and

welcoming. The second step, "**P**", perception, is the opportunity to discover what the patient knows about his or her condition or disease, through open questions. The third step "**I**", invitation, is the moment to analyze how much the patient wants to know. The fourth step "**K**", knowledge, is the time when everything about the diagnosis will be announced. At this moment, it is important to use simple words, without technical terms, in order to transmit the information. The fifth step "**E**", emotions, is the time to express empathy, identify the patients' emotions and give support. The last but not least important step "**S**", strategy and summary, is the time to suggest what the treatment should be, and what the prognosis is (16).

## 1.2. Statement of the Problem

Effective communication is at 'the heart of the art of medicine' and it is recognized that within developing countries, with inefficient health care systems, the emphasis to foster better communication is lacking (29).

How the patient responds depends largely on the manner in which the messenger conveys the news (10). The physician should respect the patient's unique preferences for receiving bad news. Physicians experience stress in relation to providing bad news, and this stress often extends beyond the actual conversation. Evidence suggests that this stress does not lessen with a physician's years in practice or experience with delivering bad news. In general, physicians fear eliciting an emotional reaction, being blamed for the bad news, and expressing their emotions during the process. Physicians, for a variety of reasons (e.g., sensitivity to cultural norms, a patient's emotional state, respect for patient and family wishes, fear of destroying hope), often withhold information or overestimate survival. The inability to effectively and truthfully deliver bad news can lead to patient confusion (1). Exploratory literature review of psychological experience in the context of prenatal diagnosis of a fetal anomaly showed parents go through a complex and multidimensional experience when the diagnosis of a fetal anomaly is disclosed and physicians consider breaking bad news as a very stressful event and are poorly prepared in this regard (5).A study conducted in Sudan among physicians of different specialty; only 56.3% received educations and training about this issue, 43% admitted bad experience in breaking bad news, and 65.6% mentioned that bad news should be delivered directly to patients. (27).

On a study done in Pakistan, 95% of residents had not received any training in communication skills at the undergraduate level, Only 64 (66%) residents had witnessed bad news being broken

by a consultant and 85% of residents felt either not comfortable or somewhat comfortable while breaking bad news. In the same study, 66% residents reported breaking bad news to be extremely stressful or very stressful (19). Similarly, in a study conducted in Iran, only 13.6% had been taught to deliver bad news. (20) In another report, 83.6% of radiology resident at two urban residency programs reported no training in delivering difficult news to their patients (21). Likewise on a qualitative study done on consultant obstetrician and gynecologist in United Kingdom, no consultant has received formal training in perinatal bereavement care; despite Stillbirth were their most difficult experiences (27).

A study done in Nigeria showed only 22% of health care provider had received some form of training in breaking bad news and reported better competency at breaking bad news. However, the same study also noted that very few provided a private place for disclosure of bad news and were seldom accompanied by a nurse (23). Another study done in Ethiopia at SPMMC, 82% of the physicians were not aware of the protocol, and 83.8% had no training. Half of the physicians feel depressed after disclosure (15).

To the best knowledge of the investigator, there is no study done on resident physicians' knowledge and practice of protocol based BBN in Ethiopia. This study is going to assess the awareness and practice of protocol-based BBN by resident physicians working in TASH, and identify the barriers/challenges encountered by resident physicians to perform protocol-based BBN if there is any.

## 1.3. Significance of the Study

BBN remains a challenging task for even the most experienced providers. Little has been studied about delivery of difficult news among resident physicians in Sub-Saharan Africa (SSA). There is a widespread problem with physicians' and students' skills and knowledge on standardized ways of BBN. Improvements are needed on knowledge, attitude, skill and practice of protocol based BBN such as the SPIKES protocol. Data regarding knowledge and utilization of such protocols is little in Ethiopia and in developing countries as a whole. To the researchers' knowledge, this is the first study done on this topic involving different specialties in Ethiopia. It will have significant implications including improving patient care and satisfaction and increase

physicians' awareness and practice of the protocol and serve as an evidence-based input to improve medical curriculum design.

## 2. Literature Review

In every area of clinical practice, it is always difficult and awkward to break bad news to a patient, whether at the time of diagnosis, recurrence, disease progression, or transition to palliative therapy. In any circumstance, it is a difficult and demanding task. Physicians bearing bad news can feel helpless, especially when there are no active treatment options available to the patient. In certain circumstances, you may even feel guilty (usually inappropriately!). Sometimes your own sense of morality looms. So it's not surprising that physicians may find themselves camouflaging the whole truth from the patient in an effort to avoid either the patient's or their own emotional reactions to the bad news.(3)

Improved health care communication has been associated with improvements in many different objective and subjective health outcomes, including blood pressure control, hemoglobin A1C in diabetes, adherence to medication use, and patient satisfaction. Clinicians must learn to support patients and to help them cope and must efficiently build rapport, convey adequate information, and address patient and family concerns within the time constraints of clinical practice. Good interpersonal skills are not a substitute for strong health care communication skills. In the past, communication skills were often viewed as innate or else as something people acquired by mimicry of role models. To a large extent, clinicians were simply expected to figure it out on their own. But research suggests that well-designed training programs can improve clinicians' communication skills and patient experience. (23)

### 2.1. Importance of Breaking Bad News

BBN to patients is inherently aversive and described as "hitting the patient over the head" or "dropping a bomb". Any patient is not ready to receive any such news for which he or she is not prepared. It can change their lives soon after receiving the news. The idea that receiving unfavorable medical information will invariably cause psychological harm is unsubstantiated. Many patients desire accurate information to assist them in making important quality-of-life decisions. (11)

A growing body of evidence shows that the attitude, communication skills and empathy of the person delivering the bad news plays an important role in the coping and bereavement abilities of patients and their families. Bad news conversation is not a one-time event but rather the beginning of an extended journey for the patient and physician. Fortunately, providing a therapeutic presence at this time in a patient's life can be extremely rewarding, both professionally and personally, and taking an individualized, systematic approach to delivering bad news can improve your confidence and reduce the patient's suffering. (24) The capacity and ideas necessary to break bad news in a caring manner do not come naturally, but can be developed and nurtured by producing evidence-based theoretical frameworks and training programs. (8)

With no action, Ethiopia will be the first among the most populous nations in Africa to experience dramatic burden of premature deaths and disability from NCDs by 2040.(25) In Ethiopia, despite death caused by communicable, maternal, neonatal and nutrition have reduced significantly, mortality due to non-communicable disease (NCD) has increased by 38% between 200 and 2016. As an e.g., among females, the top five leading cause of death were cerebrovascular disease (12.9%), diabetes mellitus (8.1%), congestive heart failure (5.9%), hypertensive disease (5.1%), malignant neoplasm of breast (4.8%) and malignant neoplasm of cervix (4.8%) as compared to HIV and Tuberculosis which is 4.4 and 4 % respectively. There is lack of availability of NCD-related services with only half of health facilities in Ethiopia ready to provide general NCD services. Among health facilities in Ethiopia only 22%, 41% and 2% of health facilities are ready to provide service for diabetes, cardiovascular disease and cervical cancer, respectively. Gaps in the healthcare delivery such as shortage of NCD drugs, diagnostic facilities and lack of treatment guidelines could also attribute to increased mortality from NCD. (26)

These data show that lack of timely access to health care not only produces more bad news, but makes it very hard to communicate it because it was avoidable. In short, socioeconomic disparities and inequitable access to health care give rise to large numbers of eventually fatal health conditions, which in turn generate a lot of bad news, an important area where every health professional must be well equipped with.

## 2.2. Knowledge of Physicians on Protocol Based Breaking Bad News

There are several protocols and mnemonics to guide the delivery of bad or serious news, including ABCDE, BREAKS, and SPIKES. The SPIKES protocol is a strategy and not a script, initially developed to guide oncologists in delivering bad news to patients with cancer; it can be used for conducting any medical consultation. (1, 3) Perception of bad news is influenced by the beliefs and attitudes of each society. Thus, developing localized protocols tailored to each community's cultural infrastructure, and training healthcare teams on how to use these guidelines can be a valuable step toward a more effective implementation of the truth-telling process to the patients. (7)

A study done in Saudi Arabia on primary Healthcare Physicians in Breaking Bad News where more than 90% were residents, only 9% of PHC physicians had good knowledge of BBN and those physicians who received in-service training about BBN had significant better total knowledge, total perceived importance and competence than their colleagues who did not receive training. In the same study, it was also found that, physicians who received in-service training about BBN had significant better knowledge than others concerning touching patient when appropriate, asking patient what s/he already knows about his/her condition, giving the patient time to cry and proceed on patient pace, as well as offering referral if needed ($P<0.05$). (14)

Another study done in Nigeria in which majority (77.8%) of the respondents were middle -level officers (residents, medical and nursing officers), Only 8(7.1%) respondents knew of any guideline for BBN in the hospitals in which they worked while the others either denied the existence of any guideline (58, 51.3%) or don't know (47, 41.6%). (22) Similarly a study done in Ethiopia among physician working in the internal medicine department at SPMMC, 87(82.1%) were not aware of the protocol, and 93(83.8%) did not have any specific teaching or training on BBN. (15) Knowledge about specific protocol concerning breaking bad news can help clinician in finding a balance between patient involvements in clinical decision making while keeping a constructive alliance with family members.

## 2.3. Practice of Resident Physician on Protocol Based Breaking Bad News

Skillful delivery of bad news, which is core of good medical care, can provide comfort for the patient and family and it helps a professional to discuss the diagnosis or prognosis in a mutually satisfying way. (1, 6, 9) Bad news should be communicated to a patient in a supportive

environment and directly in simple, but not blunt, terms. (4) A smooth transfer of the whole, often very difficult in perception, complex knowledge depends greatly on the communication skills of a counselor. (6) There are several algorithms available to help guide the physician in the delivery of bad news, including the SPIKES.

A study done in Brazil on physician of different specialty including residents and revealed that, none of the participants was aware of any instrument or protocol that could help in addressing patients when bad news needs to be communicated and most of the participants had learned the skill of BBN through observing other specialists.(12) Another study done in Egypt, 58% implemented the protocol at a fair level with those physicians who received training on breaking bad news have higher perceptions and practice scores. (13)

On a survey conducted on residents and fellows in one teaching hospital in Korea to evaluate how they assess their own performance of DBN using the six-step protocol (SPIKES) protocol found that; whether they were setting up an appropriate environment for patient privacy and comfort, 19% responded that they were very adequate, in assessing the patient's perception of his or her medical condition, 85% of trainees answered that they were very adequate or adequate, in obtaining the patient's invitation to disclose the details of the medical condition, 30% of trainees replied that they were very adequate, with another 54% adequate, in assessing the patient's emotions with empathic responses, 83% replied as being very adequate to adequate, in providing knowledge and information to the patient, 86% of trainees responded that they were very adequate or adequate, on explaining future strategies including treatment options and prognosis, 88% answered as being very adequate to adequate. In the same study, 93.1% had actual experience of DBN to patients or their families and 29.7% had undergone bad experiences due to improperly delivered bad news to a patient. Most of the residents and fellows in this survey responded that chances of learning about DBN were given in medical school as a part of the curriculum on medical ethics. (16)

In another cross-sectional study conducted in Sudan among 10 departments (medicine, surgery, pediatric, pediatric surgery, urology, nephrology, ENT, orthopedic, oncology, obstetrics and Gynecology departments) showed that usual adherence to SPIKES protocol was reported in a range of 35–79%, sometimes adherence was reported in a range of 20–44% while never adherence was reported in a range of zero–13.5%. (17) In a similar study done in Ethiopia

revealed that, Level of performance of different components of the SPIKES protocol were Setting, Perception, Invitation, Knowledge, Empathy, Summary were 10.1, 74.5, 51.1, 56.3, 15.9, 22.3, and 10.1% respectively (15).

### 2.3. Barrier/Challenges to Protocol Based Breaking Bad News

Historically, medical education focused merely on technical proficiency and often neglected communication skills. While this approach may have been appropriate when doctor–patient relationships were paternalistic, it is no longer acceptable in the age of patient autonomy. Delivering bad news to patients is a challenging yet impactful everyday task for clinician where they are often poorly trained and emotionally ill equipped. (3, 27) There are large number of barrier to breaking bad news to patient or / and families. Conveying bad news is more difficult when the clinician has a long-standing relationship with the patient, when the patient is young, or when strong optimism had been expressed for a successful outcome. Some of the important barriers are Strong emotions such as anxiety, a burden of responsibility for the news, and fear of negative evaluation and sensitivity to cultural norms. (11)

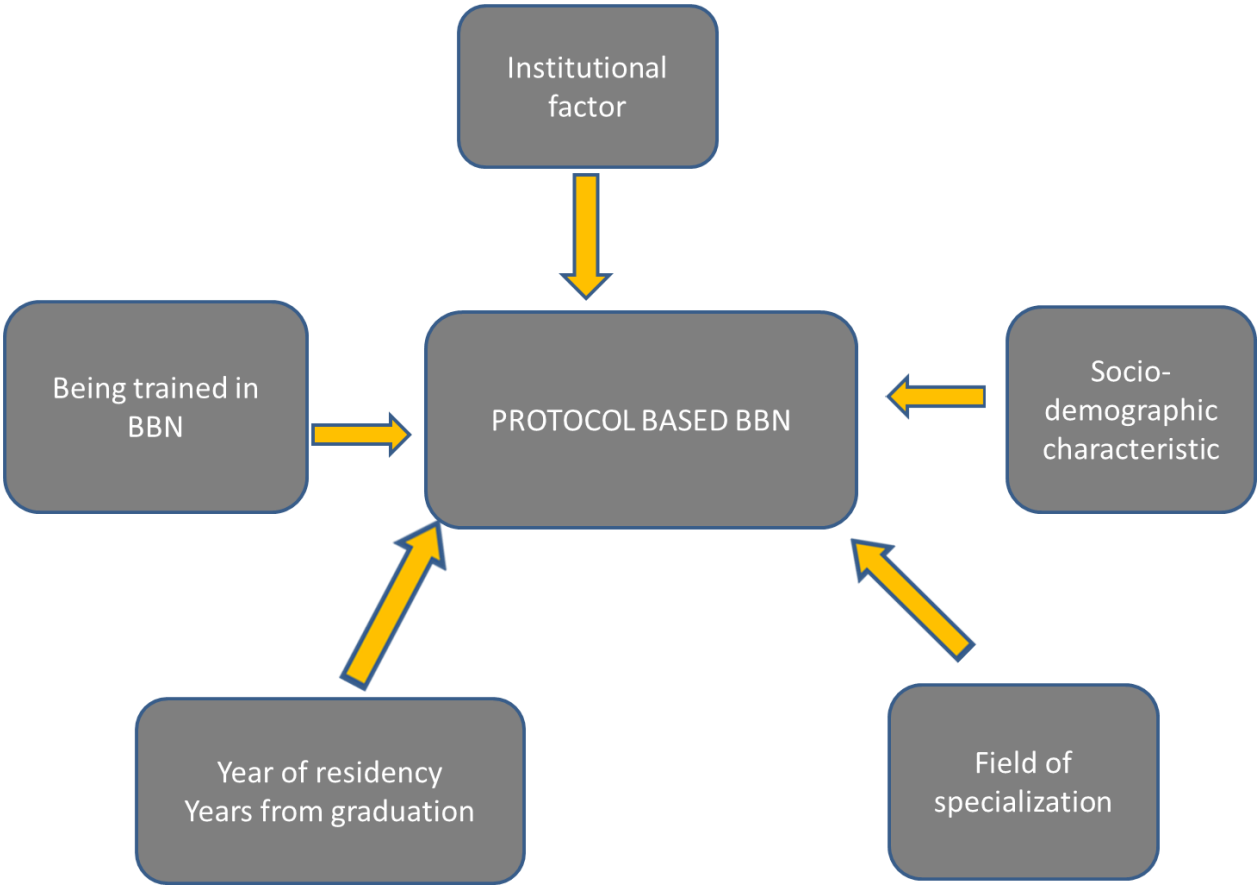
Understanding barriers for communicating bad news and general improvements in communication, such as avoiding jargon and active listening, are initial steps in learning this important task. (4) Because this specialized skill is not taught in most medical schools, physicians typically learn to communicate bad news to patients through professional experience and by watching senior physicians. At first, it might seem satisfactory to acquire the skills simply by watching senior practitioners. But, in fact, this turns out not to be the case. (3) Results from a study published by Fallowfield et al in February 2002 indicate that the communication problems of senior oncologists are not resolved with clinical experience and concluded that, training courses significantly improve key communication skills and more resources should be allocated to address doctors' training needs in this vital area. (29)

In one systematic review of qualitative studies (a metanalysis) that focused on the experiences and points of view of oncologists about breaking bad news to patients identified a set of factors that potentially influence the announcement of bad news to patients including concerned family relationships, systemic and institutional factors, and cultural communication factors. The study notes that, the role of the family varies across cultures. Western medical culture requires that, doctors talk to patients first and then provide consistent information to their family after the

patient has consented, whereas in other countries, the subject is considered only within the context of family and community relationships. For example, in Tanzania, the decision-making model is family centered: the western definition of patient autonomy is absent. In Iran, breaking bad news relies on a paternalistic approach based on Islamic principles. The same review also described various institutional barriers to breaking bad news. The first of these was lack of time, which made it difficult for the doctor to deliver such sensitive information, logistic barriers including but not limited to a lack of private rooms or constant ringing of telephones, a lack of internal communication among health-care professionals, or oncologists' perceptions of insufficient training in breaking bad news and economic situations (poverty) and the availability and cost of treatments can also influence the disclosure of bad news, mainly in poor countries. (2)

Another cross-sectional study done in Egypt showed that, higher qualifications, long years of experience, and effective training play important roles in strengthening BBN skills and based on the results of this study, the Authors recommended to include training on the practice of breaking bad news in the study curriculum of postgraduate students. (13) Similar study done in Saudi Arabia, Kenya and Pakistan revealed that, training programs among residents about BBN showed a significant better outcome. (14, 18, 19)

## 2.4. Conceptual Frame Work



# 3. Objectives

## 3.1. General Objective

- To assess the awareness to, and practice of protocol-based BBN among resident physicians working in TASH Addis Ababa, Ethiopia.

3.2. Specific Objectives:

- To assess the awareness of resident physicians about the SPIKES protocol for BBN
- To assess resident physicians' practice of BBN using the SPIKES protocol
- To identify the challenges/barriers for using a protocol-based BBN if there is any.

# 4. Methodology

## 4.1. Study Setting

### 4.1.1. Study Design

Institutional based cross-sectional study was conducted.

### 4.1.2. Study Period

The study was conducted from April 28, 2023 to July 10, 2023

### 4.1.3. Study Area

The study was conducted in TASH which is the largest university hospital in the country and is located in Addis Ababa, Ethiopia. TASH, established in 1972, is the largest referral hospital in the country, and the main teaching hospital for both clinical and preclinical training of most disciplines. It is also an institution where specialized clinical services that are not available in other public or private institutions are rendered to the whole nation. Currently there are 797 resident physicians working in the 9 major departments of the hospital.

## 4.2. Source and Study Population

### 4.2.1. Source population

All resident physicians working at TASH

### 4.2.2. Study population

All resident physicians working in the departments of Internal Medicine, Surgery, Pediatrics, Orthopedics, Oncology, Obstetrics & Gynecology, Anesthesiology, Emergency Medicine and Family Medicine who are involved in BBN at TASH during the study period.

## 4.3. Inclusion and Exclusion Criteria

### 4.3.1. Inclusion Criteria

All resident physicians working in the departments of Internal Medicine, Surgery, Pediatrics, Orthopedics, Oncology, Obstetrics & Gynecology, Anesthesiology, Emergency Medicine and Family Medicine and are willing to participate in the study.

### 4.3.2. Exclusion Criteria

Resident physicians, who are not willing to participate in the study.

## 4.4. Sample Size and Sampling Procedure

### 4.4.1. Sample Size Determination

Formula for calculating sample size in survey studies from a finite population (countable population) is used (30). The following assumptions were used to estimate the sample size: as the investigator didn't get a similar study on the prevalence of knowledge of resident physicians on BBN: the prevalence (P) of 50% is taken, 95% confidence level, a margin of error of 5%, and 10% none response rate.

The formula is:

$$n=\frac{N*X}{X+N-1}$$

Where; n=sample size, N= Population size $X = \frac{Z^2 \text{ x } (pq)}{d^2}$

p=0.5 q=0.5, Zα=1.96 and d=0.05

$=\frac{1.96^2 \text{ x } 0.5(1-0.5)}{0.05^2}$ =384

$$n=\frac{N*X}{X+N-1}$$

$n=\frac{797*384}{384+797-1}$ = 259

Adding 10% of non-response, the sample size will be: 259+ 0. 1x 259= 284

### 4.4.2. Sampling Procedure

The study subjects were recruited from the 9 major departments in TASH: Internal Medicine, Surgery, Pediatrics, Orthopedics, Oncology, Obstetrics & Gynecology, Anesthesiology, Emergency Medicine and Family Medicine. The numbers of study subjects from each department were allocated proportionally to each department. The study subjects in each department were selected by a simple random sampling technique.

## 4.5. Variables of the Study

### 4.5.1. Dependent Variables

- Resident physicians' level of knowledge on protocol-based BBN
- Resident physicians' level of performance of SPIKES protocol

### 4.5.2. Independent Variables

- Socio-demographic characteristics like age and sex, years from graduation to joining residency, year of residency, previous training on BBN, field of specialization, Experience in medical practice, Past history of bad experience during BBNs.

## 4.6. Data collection tool and Data collection procedure

Data was collected by online and a self-administered semi-structured questionnaire in English, with a covering letter explaining the project and stating their rights as respondents to the survey. The questionnaire is self-developed from the literature review and modified to fit the research objective. The questionnaire was used to collect information regarding the socio-demographic characteristics of the resident physicians, their awareness and practice about protocol-based BBN particularly SPIKES, and barriers for using protocol-based BBN. The overall activities of data collection were supervised and coordinated by the investigators. The collected data were checked for consistency, completeness, and relevance daily during the entire data collection by the principal investigator

## 4.7 Data quality assurance

Training was given for data collectors and supervisors. Data compilation system and data completeness was checked and strictly controlled by the principal investigator and supervisors. Double data entering and random checking was done to ensure the validity of the study. Confidentiality and privacy of the participants was kept during the training session and data collection time.

## 4.8. Data Analysis

The data will be entered and analyzed by using SPSS version 25 software. Chi-square test was used to see correlations, and bivariate & logistic regression for associations. Results was presented using frequencies, percentages, mean and odds ratio with significance level of 0.05.

## 4.9. Operational Definition

**Good Knowledge:** for this study, a study subject is said to have good knowledge when he/she answers 70% of the knowledge questions

**Poor Knowledge:** for this study, a study subject is said to have poor knowledge if he/she answers less than 70% of the knowledge questions

**Point Assignment**

For practice related question, those who answered

- ✓ '**Usually'** was given two (2) point
- ✓ '**Sometimes'** was given one (1) point
- ✓ '**Never'** was given zero (0) point

**Good protocol adherence**: for this study, those who score more than 70% of the components of the SPIKES protocol are said to have good protocol adherence.

**Poor protocol adherence**: for this study, those who score less than 70% of the components of the SPIKES protocol are said to have poor protocol adherence.

## 4.10. Ethical Consideration

Before data collection ethical clearance was obtained from Department Research and Publication Committee (DRPC) of the Department of Obstetrics & Gynecology, Addis Ababa University, College of Health Sciences, School of Medicine. After obtaining the ethical clearance, a support letter was written by the Department of Obstetrics & Gynecology to the medical director of TASH to get permission to undertake the research. Written informed consent was obtained from each study participant after informing about the whole purpose, the benefits, the risks, the confidentiality of information and the voluntary nature of participation in the study.

# 5. Result

## 5.1. Socio-demographic characteristics of the study participants

In this study 284 resident physicians were included making a response rate of 100%. Two-third (65%) of the study participants were in the age group of ≤30 years. Male constituted 69 % and 73.2% were single. More than half (63.4%) were Orthodox Christian in religion and one fifth (20.1%) of the participants was Obstetrics and Gynecology residents. Majority (72.9%) of the participants had ≤5 years of experience in medical practice and only 23.6% had received BBN training. From those who have training on BBN, 61.2% of them received from medical school while learning about medical ethics. More than one-third (39%) them were year two residents followed by year three (36%) and year one residents (19%) (Table 1, Fig 1 & 2)

**Table 1**: The socio-demographic characteristics and their correlation with Knowledge & practice score of the study participants among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

| **Variable** | Frequency (%) | *$X^2$ test for K*(p-value)* | *$X^2$ test P**(p-value)* |
|---|---|---|---|
| **Age of the study participants in years** | | **8.024(0.018)** | 4.853(0.088) |
| ≤30 | 185(65.1) | | |
| 31-40 | 97(34.2) | | |
| ≥41 | 2(0.7) | | |
| **Sex of the study participants** | | 0.02(0.889) | 3.222(0.073) |
| Male | 197(69.4) | | |
| Female | 87(30.6) | | |
| **Martial States** | | 0.340(0.844) | 4.629(0.099) |
| Single | 208(73.2) | | |
| Married | 73(25.7) | | |
| Divorced | 3(1.1) | | |
| **Religion** | | **10.55(0.014)** | 6.507(0.089) |
| Orthodox Christian | 180(63.4) | | |
| Muslim | 54(19.0) | | |
| Protestant | 30(1.06) | | |
| Catholic | 12(4.2) | | |
| Others | 8(2.8) | | |
| **Specialization(Figure 1)** | | **25.73(0.001)** | **10.99(0.022)** |
| **Years of experience in medical practice** | | **2.190(0.039)** | **8.409(0.004)** |
| ≤5 | 207(72.9) | | |
| >5 | 77(27.1) | | |
| **Received training for BBN** | | **5.659(0.017)** | **7.330(0.007** |
| Yes | 67(23.6) | | |
| No | 217(76.4) | | |
| **Year of Residency(Figure 2)** | | 5.134(0.162) | **8.519(0.036)** |
| **Place of receiving the training for BBN (n=67)** | | 8.533(0.074) | **13.247(0.010)** |
| By observing senior residents or staff doing BBN | 8(11.9) | | |
| During seminars or education programs for residents | 14(20.9) | | |
| In medical school during learning about medical ethics | 41(61.2) | | |
| Other | 4(6) | | |

*=Knowledge **=Practice

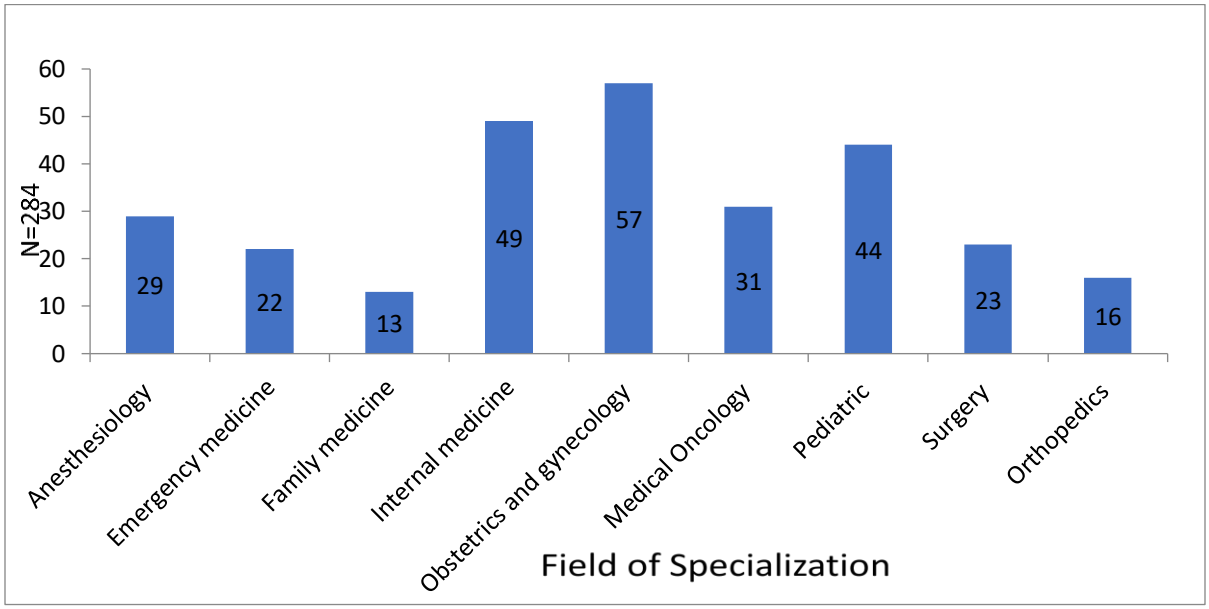



Figure 1: Characteristics of the study participants based on their field of specialization among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

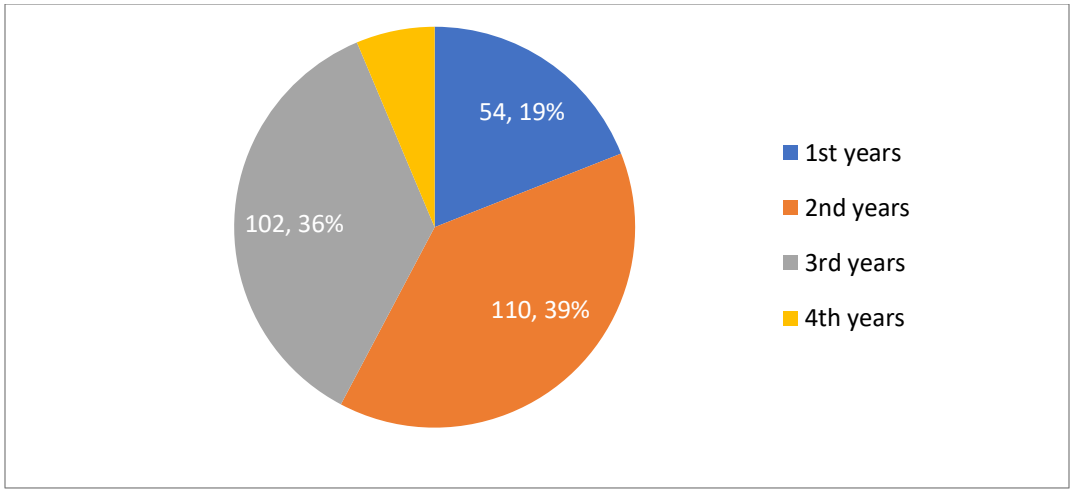



Figure 2: Characteristics of the study participants based on their year of residency among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

## 5.2. Training and experience of participant about BBNs

Ninety-one percent of the study participants had involved in delivering bad news to patients/family, and majority (81.5%) didn't use any protocol during BBNs. The most common (50.3%) reason for not to use the protocol was due to lack of training on BBNs followed by lack of private room (48.8%) for delivering the BBN. Almost all (99.3%) had no separate room for BBNs and 58.8% had bad experience after BBNs. From those bad experiences being depressed accounts for 64.5% followed by violence by the patients (13.6%). Eighty three percent of the study participants feel stressful during BBNs and half (50%) of the participants avoid BBNs from the patient/family. Majority (89%) of the study participants agree or strongly agree that BBN is a difficult task. Almost all (98.6%) of the study participants agree on the need of training for the development of adequate skill for BBNs and 98.9% are willing to attend the training on BBNs (Table 3, Fig 3, 4 & 5)

Table 2**: Training and experience of the study participants about breaking bad news among resident physicians working in TASH, CHS, AAU, AA, Ethiopia,2023** ***(N=284)***

| **VARIABLE** | | Frequency | percent |
|---|---|---|---|
| **Ever delivered bad news to patients or patients' family** | Yes | 259 | 91.2 |
| | No | 25 | 8.8 |
| **Reason for not use breaking new protocol (n=211** | Lack of private rooms | 103 | 48.8 |
| | Lack of time | 2 | 0.9 |
| | Lack of training in BBN | 106 | 50.3 |
| **Separate room prepared for breaking bad news in the department** | Yes | 2 | .7 |
| | No | 282 | 99.3 |
| **Had any bad experiences due to breaking bad news** | Yes | 167 | 58.8 |
| | No | 117 | 41.2 |
| **Feel stressful when you break bad news to the patient or the patients' family** | Yes | 235 | 82.7 |
| | No | 49 | 17.3 |
| **Ever avoided breaking bad news to the patient/families** | Yes | 142 | 50.0 |
| | No | 142 | 50.0 |
| **How do you rate your ability of breaking bad news** | Fair | 103 | 36.3 |
| | Good | 142 | 50.0 |
| | Very good | 39 | 13.7 |
| **Feel that training is needed for adequate skill development in "BBN" during your residency program** | Yes | 280 | 98.6 |
| | No | 4 | 1.4 |
| **Willing to attend a training or education if you have the opportunity** | Yes | 281 | 98.9 |
| | No | 3 | 1.1 |

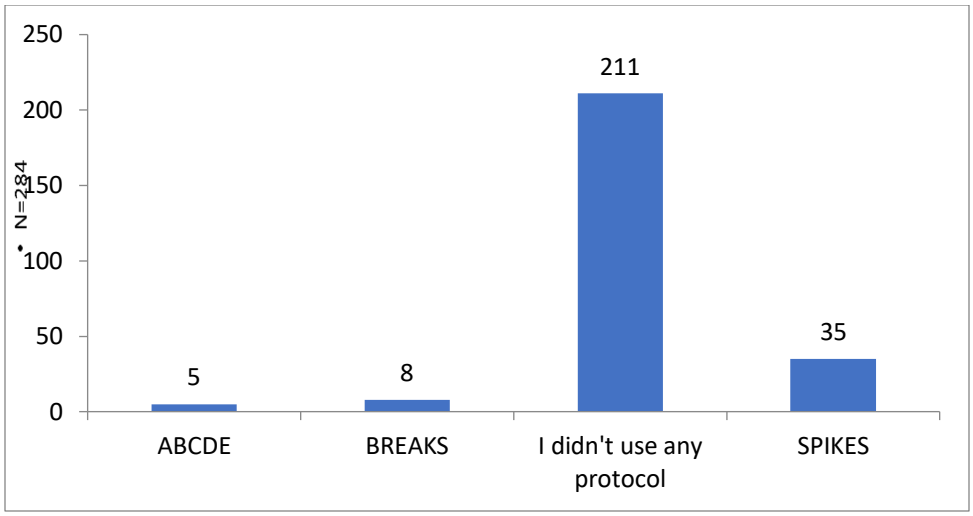



Figure 3: Characteristics of the study participants based on types of protocol used among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=259)*

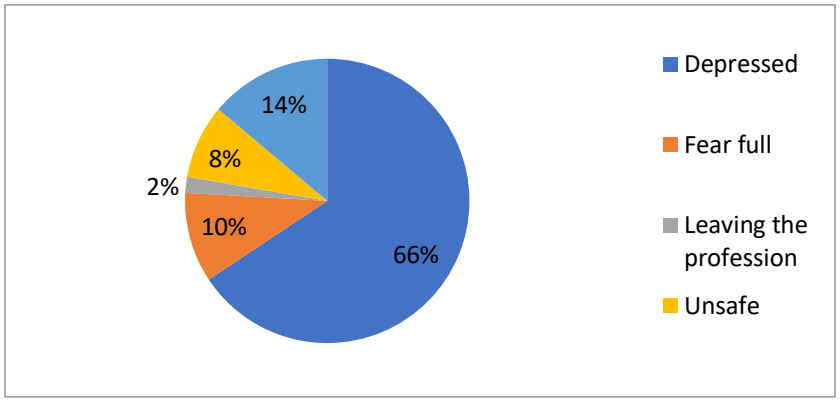



Figure 4: Characteristics of the study participants based on their bad experience during BBN among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=167)*

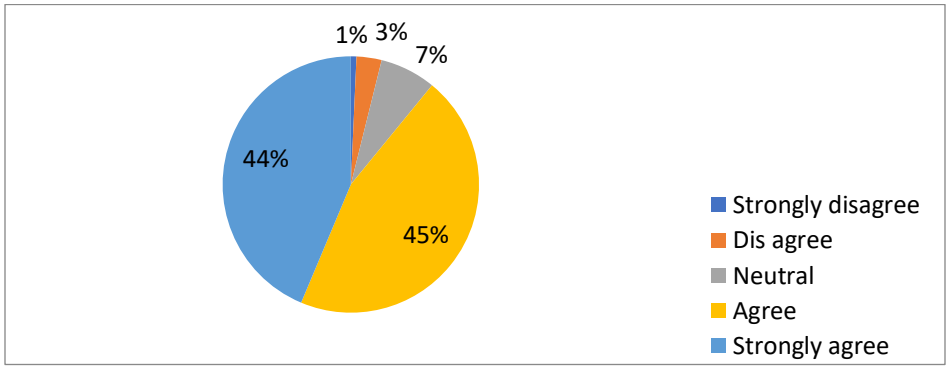



Figure 5: Characteristics of the study participants based on their perception on difficultness of BBN among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

## 5.4. Knowledge of the study participants on breaking bad news

The study participants knowledge on BBN is poor (41.0%) (Fig. 6)

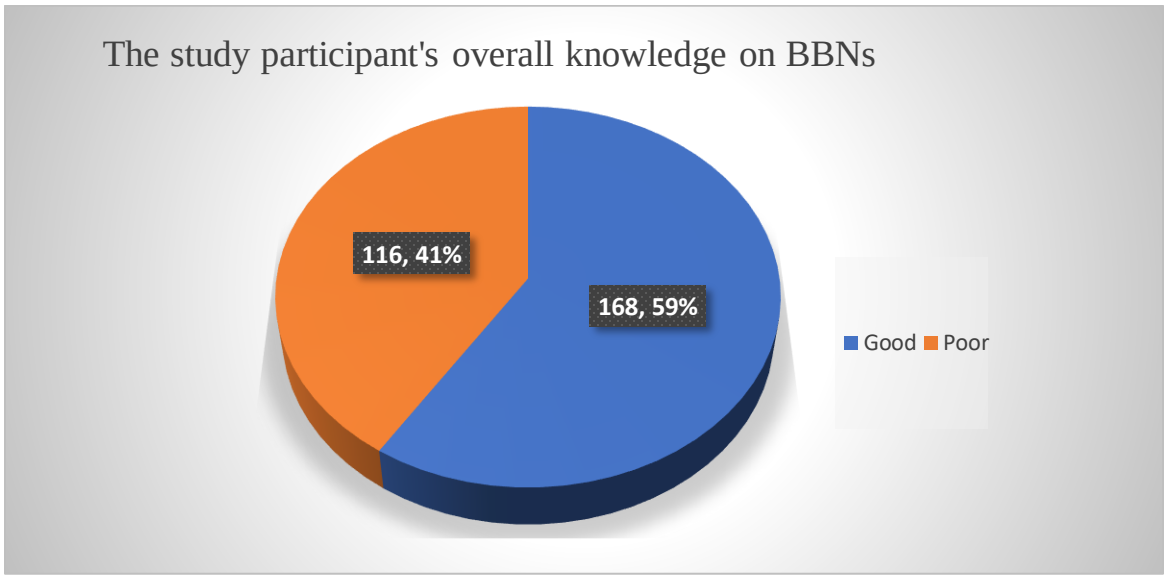



Figure 6: The overall knowledge on BBNs among resident physician working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

Majority (94.7%) of the study participants know about the definition of bad news, and 95.4% know that a quiet place/private room is the ideal place of breaking bad news. Majority (91.2%) of the participants understand the need of patient's permission for breaking bad news. and 65% of the participants know the need to anticipate the emotional responses of patients and family members during BBNs. Only one third (30%) of resident physicians know the reality that 'Stress related to providing bad news does not lessen with increasing of a physician's years in practice or experience with delivering bad news. The mean, minimum and maximum knowledge score of the study participant were 10.6, 6 and 14 respectively. (table 4).

**Table 3:** Knowledge of the study participants on BBNs among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, (N=284)

| Variables | Response | frequency | percent |
|---|---|---|---|
| Bad news is any information that will alter a patient's view of his or her cognitive, behavioral, and emotional responses | Yes | 269 | 94.7 |
| | No | 15 | 5.3 |
| Bad news ideally be delivered | Yes | 271 | 95.4 |
| | No | 13 | 4.6 |
| Before breaking Bad News, what the receiver already knew about the situation of the bad news should be entitled | Yes | 246 | 86.6 |
| | No | 38 | 13.4 |
| It is important to obtain the patient's permission before delivering the bad news | yes | 259 | 91.2 |
| | No | 25 | 8.8 |
| before breaking bad news Arrange for an appropriate location for the conversation and enough time to give the information and answer questions | Yes | 270 | 95.1 |
| | No | 14 | 4.9 |
| before breaking bad news have all the information necessary to conduct an effective encounter | Yes | 103 | 36.3 |
| | No | 181 | 63.7 |
| before breaking bad news, who should be present for the conversation | Yes | 232 | 81.7 |
| | No | 52 | 18.3 |
| before breaking bad news anticipate the emotional responses of patients and family members | Yes | 184 | 64.8 |
| | No | 100 | 35.2 |
| before breaking bad news consider offering a teleconference for people who are important to the patient but cannot be physically present | Yes | 211 | 74.3 |
| | No | 83 | 25.7 |
| before breaking bad news explore whether there are financial constraints. | yes | 151 | 53.2 |
| | No | 133 | 46.8 |
| Before breaking Bad News, the receiver should be asked how much information he / she wants to know about the situation of the bad news | Yes | 217 | 76.4 |
| | No | 67 | 33.6 |
| After delivering Bad News, the receiver should get written materials about the condition and/or the services available | Yes | 167 | 58.8 |
| | No | 117 | 41.2 |
| During delivering bad news, chance should be given for the receiver to ask questions, express his /her feeling | Yes | 276 | 97.2 |
| | No | 8 | 2.8 |
| During breaking bad news, physician should assess the patient's emotions and give emotional support with emphatic response | Yes | 275 | 96.8 |
| | No | 9 | 3.2 |
| Stress related to providing bad news does not lessen with increasing of a physician's years in practice or experience with delivering bad news | Yes | 86 | 30.3 |
| | No | 198 | 69.7 |
| **Mean** | | 10.6 | 70.6 |
| **Maximum** | | 14 | 93 |
| **Minimum** | | 6 | 40 |

## 5.5. Determinant factors affecting knowledge of the study participants on BBNs

Age, department of specialization, year of residency and having training on BBN showed a correlation on the Chi square test, and had an association with the knowledge of the study participants on BBN by multivariate logistic regression analysis. The multivariate logistic regression analysis revealed that study participant whose age 31-40 years are 69% less likely knowledgeable as compared to age <30 years on BBNs (AOR=0.31, 95%; CI=**0.16, 0.58**) and participants who are in the department of internal medicine, OBGYN, medical oncology and pediatric had 3.5, 5.4, 18.1 and 5.6 times more likely to have good knowledge on BBNs than those of anesthesiology residents respectively.

Participants who received training on BBN had 3.1 times are more likely to have good knowledge as compared to those who did not took training (AOR=2.9, 95%; CI=**1.35, 6.16** (table 5).

**Table 4**: Bivariate and Multivariate logistic regression analysis factor affecting Knowledge on BBNs among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

| **VARIABLE** | Knowledge on BBN | | p-value | COR with 95% CI | **AOR with 95%CI** | **P-value** |
|---|---|---|---|---|---|---|
| | Good | Poor | | | | |
| **Age in years** | | | | | | |
| <30 | 119 | 66 | 1 | | | 1 |
| 31-40 | 47 | 50 | **0.011** | 0.52(0.32, 0.86) | **0.31(0.16, 0.59)** | **0.000** |
| >=41 | 2 | 0 | | | | |
| **Specialization** | | | | | | |
| Anesthesiology | 11 | 18 | 1 | | | 1 |
| Emergency medicine | 10 | 12 | 0.589 | 1.4(0.44, 4.20) | 1.5(0.42, 5.14) | 0.549 |
| family medicine | 8 | 5 | 0.161 | 2.6(0.68, 10.06) | 2.7(0.63, 11.50) | 0.181 |
| internal medicine | 26 | 23 | 0.198 | 1.8(0.73, 4.72) | **3.5(1.23. 10.08)** | **0.019** |
| OBS & Gyn | 40 | 17 | 0.005 | 3.8(1.50, 9.86) | **5.4(1.91, 15.08)** | **0.001** |
| Oncology | 27 | 4 | 0.000 | 11.0(3.04, 40.14) | **18.1(4.36, 75.01)** | **0.000** |
| Pediatric | 28 | 16 | 0.033 | 2.9(1.09, 7.55) | **5.6(1.81, 17.05)** | **0.003** |
| Surgery | 15 | 8 | 0.054 | 3.1(0.98, 9.59) | 3.9(1.02, 14.60) | 0.056 |
| Orthopedics | 3 | 13 | 0.192 | 0.38(0.09, 1.63) | 0.89(0.18, 4.41) | 0.887 |
| **Experience in medical practice in years** | | | | | | |
| ≤5 | 117 | 90 | 1 | | | 1 |
| >5 | 51 | 26 | 0.140 | 1.5(0.87, 2.61) | **2.1(1.03, 4.06)** | 0.040 |
| **Received training on BBN** | | | | | | |
| Yes | 48 | 19 | **0.019** | 2.1(1.13, 3.70) | **2.9(1.37, 6.34)** | **0.006** |
| No | 120 | 97 | 1 | | | **1** |
| **Year of residency** | | | | | | |
| 1st years | 28 | 26 | 1 | | | 1 |
| 2nd years | 73 | 37 | 0.074 | 1.8(0.94, 3.56) | 1.8(0.88, 4.06) | 0.132 |
| 3rd years | 55 | 47 | 0.805 | 1.1(0.56, 2.10) | 1.1(0.57, 2.81) | 0.861 |
| 4th years | 12 | 6 | 0.067 | 1.8(0.61, 5.67) | 1.3(0.39, 5.83) | 0.698 |
| **Have you had any bad experiences due to breaking bad news** | | | | | | |
| Yes | 104 | 65 | 1 | | | 1 |
| No | 64 | 51 | 0.122 | 0.78(0.49, 1.27) | 1.3(0.73, 2.30) | 0.383 |
| **How do you rate your ability of breaking bad news** | | | | | | |
| Fair | 68 | 35 | 1 | | | 1 |
| Good | 76 | 66 | 0.051 | 0.82(0.35, 1.00) | 0.71(0.38, 1.34) | 0.293 |
| Very good | 24 | 15 | 0.618 | 0.82(0.38, 1.77) | 0.96(0.38, 2.46) | 0.934 |

## 5.6. The practice of study participants on breaking bad news

The study participants adherence (practice) on the SPIKES protocol was poor (52.0%) (FIg 7)

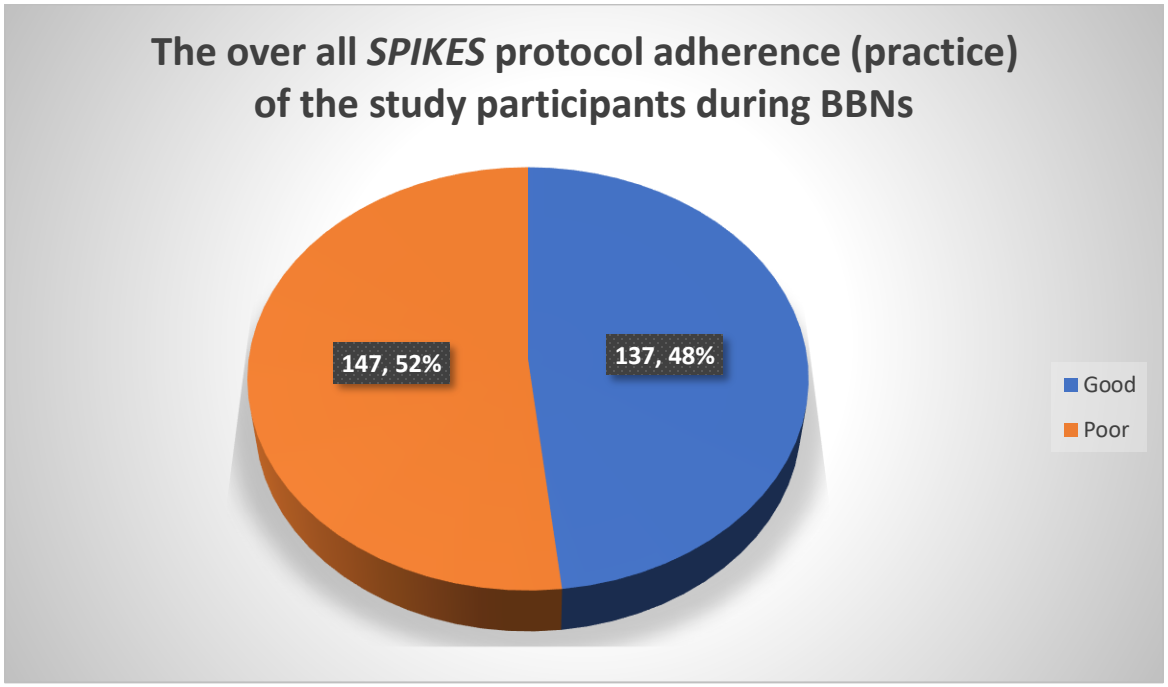



Figure 7: The practices of SPIKES protocol-based BBNs among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

Twenty percent of the residents physicians had never arranged privacy area and only 40.8% of them usually arrange a privacy area for BBNs. Majority(79.6%) of the study participant correct misinformation and misunderstanding usually but nearly half(49%) of them never ask permission to give results so that the patient can control the conversation. Only forty three percent of participants provide a warning statement to help lessen and facilitate understanding and majority (88%) never offer contact if additional questions arise.

The mean, minimum and maximum practice score on SPIKES protocol item question of the study participant were 33.4, 17 and 46 respectively. (Table 6).

**Table 5:** The *SPIKES* Protocol adherence (Practice) during BBNs among resident physician working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

| **VARIABLE** | Response (%)(N=46) | | |
|---|---|---|---|
| | Never | Sometimes | Usually |
| **SETTING(S)** | | | |
| Do you arrange for privacy area | 57(20.1) | 111(39.1) | 116(40.8) |
| Do you try to limit interruption and silent electronics | 45(15.8) | 93(32.7) | 146(51.4) |
| Do you allow patient to dress | 8(2.8) | 41(14.4) | 235(82.7) |
| Do you maintain eye contact | 23(8.1) | 58(20.4) | 203(71.5) |
| Do you include family or friend as patient desire | 2(0.7 | 84(29.6) | 198(69.7) |
| **PERCEPTION(P)** | | | |
| Do you use open ended question to determine the patients understanding | 9(3.2) | 112(39.4) | 163(57.4) |
| Do you correct misinformation and misunderstanding | | 58(20.4) | 226(79.6) |
| Do you identify wishful thinking, unrealistic expectation and denial | 5(1.8) | 121(42.6) | 158(55.6) |
| **INVITATION(I)** | | | |
| Do you determine how much information and detail the patient desire | 46(16.2) | 141(49.6) | 97(34.2) |
| Do you ask permission to give results so that the patient can control the conversation | 49(17.3) | 135(47.5) | 100(35.2) |
| If the patient decline, do you offer to meet him or her again in the future when he or she is ready | 24(8.5) | 164(57.7) | 96(33.8) |
| **KNOWLEGDE(K)** | | | |
| Do you briefly summarize events leading in to this point | 12(4.2) | 62(21.8) | 210(73.9) |
| Do you provide a warning statement to help lessen and facilitate understanding | 43(15.1) | 152(53.5) | 89(31.3) |
| Do you use non-medical term and avoid jargon | 8(2.8) | 130(45.8) | 146(51.4) |
| Do you Stop often to confirm understanding | 3(1.1) | 142(50) | 139(48.9) |
| **EMOTION(E)** | | | |
| Do you stop and address emotion as they arise | 13(4.6) | 83(29.2) | 188(66.2) |
| Do you use emphatic statement to recognize the patient's emotion | 11(3.9) | 82(28.9) | 191(67.2) |
| Do you validate responses to help the patient realize his or her feeling is important | | 110(38.7 | 174(61.3) |
| Do you ask explanatory question to help understand when emotions are not clear | 16(5.6) | 119(41.9) | 149(52.5) |
| **Strategy and Summary(S)** | | | |
| Do you summarize the news to facilitate understanding | 6(2.1) | 101(35.6) | 177(62.3) |
| Do you set plane for follow up | 58(20.4) | 99(34.9) | 127(44.7) |
| Do you offer contact if additional questions arise | 88(31) | 127(44.7) | 69(24.3) |
| Do you avoid saying there is nothing we can do for you | 43(15.1) | 104(36.6) | 137(48.2 |
| **Mean score** | **33.4(72.6%)** | | |
| **Minimum** | **17(36.9%)** | | |
| **Maximum** | **46(100)** | | |
| **No of participant who answered usually for all the practice e question** | **11(23.9%)** | | |

### 5.7. **Determinant factor affecting SPIKES protocol adherence/practice of the study participants** during BBNs

Field of specialization, experience in medical practice, having training on BBNs and past history of bad experience during BBNs correlated with and had an association with the adherence on SPIKES protocol based BBNs. The multivariate logistic regression revealed that resident physicians from medical oncology are 3.5-times more likely to have good SPIKES protocol adherence as compared to anesthesiology residents on BBNs.(AOR=3.5,95%,CI=**1.07,11.66)** and participants having more than 5 years of medical experience are 3.2 times more likely to have good SPIKES protocol adherence/practice as compared to those having ≤5 years of experiences (AOR=2.45, 95%; CI=1.31, 4.59). Resident physicians who had a training on BBN were 2.9 times more likely to have good SPIKES protocol adherence/practice as compared to their opposite counterparts (AOR=3.84, 95%; CI=1.86, 7.93) and those had no bad experiences due to breaking bad news were 1.75 times more likely to have good SPIKES protocol adherence/practice (AOR, 1.75,95%, CI=1.007, 3.05). (Table 7).

**Table 6**: Bivariate and Multivariate logistic regression analysis for factors affecting SPIKESprotocol adherence/practices during BBNs among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

| **Variable** | Practice on BBN | | p-value | COR with 95% CI | AOR with 95%CI | P-value |
|---|---|---|---|---|---|---|
| | Good | Poor | | | | |
| **Age in years** | | | | | | |
| <30 | 83 | 102 | 1 | | | 1 |
| 31-40 | 54 | 43 | 0.085 | 1.5(0.94, 2.53) | 0.93(0.51,1.71) | 0.823 |
| ≥41 | 0 | 2 | | | | |
| **Marital status** | | | | | | |
| Single | 93 | 115 | 1 | | | **1** |
| Married | 43 | 30 | 0.038 | 1.8(1.03,3.04) | 1.5(0.78, 2.74) | 0.231 |
| Divorced | 1 | 2 | 0.696 | 0.62(0.06, 6.93) | 0.75(0.59, 9.48) | 0.822 |
| **Specialization** | | | | | | |
| Anesthesiology | 9 | 20 | 1 | | | 1 |
| Emergency medicine | 13 | 9 | 0.048 | 3.2(1.01, 10.22) | 2.1(0.59, 7.07) | 0.261 |
| family medicine | 7 | 6 | 0.165 | 2.6(0.68, 9.95) | 1.4(0.33, 6.07) | 0.633 |
| internal medicine | 25 | 24 | 0.088 | 2.3(0.88, 6.08) | 2.5(0.87, 7.02) | 0.088 |
| Gynecology and obstetric | 24 | 33 | 0.320 | 1.6(0.63, 4.16) | 1.6(0.59, 4.62) | 0.343 |
| Oncology | 21 | 10 | 0.006 | 4.7(1.57, 13.87) | **3.5(1.07,11.66)** | **0.039** |
| Pediatric | 21 | 23 | 0.159 | 2.0(0.76, 5.43) | 2.1(0.69, 6.26) | 0.190 |
| Surgery | 9 | 14 | 0.543 | 1.4(0.45, 4.51) | 1.0(0.29, 3.41) | 0.599 |
| Orthopedics | 8 | 8 | 0.213 | 2.2(0.63, 7.81) | 1.9(0.51, 7.35) | 0.337 |
| **Years of experience in medical practice** | | | | | | |
| ≤5 | 89 | 118 | 1 | | | 1 |
| >5 | 48 | 29 | 0.004 | 2.2(1.28, 3.75) | **2.6(1.39, 4.86)** | **0.003** |
| **Received training on BBN** | | | | | | |
| Yes | 42 | 25 | 0.007 | 2.2(4.23, 3.79) | **3.7(1.84, 7.60)** | **0.000** |
| No | 95 | 122 | 1 | | | **1** |
| **Have you had any bad experiences due to breaking bad news** | | | | | | |
| Yes | 91 | 78 | 0.022 | 1.8(1.08, 2.83) | 1.7(0.98, 2.94) | 0.056 |
| No | 46 | 69 | 1 | | | 1 |
| **Over all knowledge** | | | | | | |
| Poor | 54 | 62 | 1 | | | 1 |
| good | 83 | 85 | 0.136 | 1.1(0.69, 1.80) | 0.88(0.51, 1.54) | 0.661 |

## 5.8. The impact of training on breaking bad news

In this study, having bad experience and feeling stressful during BBNs had a statistically significant relationship with level of training on BBN. Those study participants who did not received BBNs training are 3.9 times more likely to be stressful during BBNs as compared to those who received BBNs training (AOR=3.9, 95%; CI=1.99, 8.00) and participants who did not received BBN training are 3.7 times more likely to have bad experience after BBNs as compared to those who took BBNs training (AOR=3.7, 95%; CI=1.95, 7.09) (Table 8).

**Table 7**: The impact of training on breaking bad news among resident physicians working in TASH, CHS, AAU, AA, Ethiopia, 2023, *(N=284)*

| Variable | Training on BBN | | p-value | COR | P-value | AOR |
|---|---|---|---|---|---|---|
| | Yes | no | | | | |
| **Feel stressful when you break bad news to the patient or the patients' family(N=284)** | | | | | | |
| **Yes** | 40 | 195 | 1 | | 1 | |
| **No** | 27 | 22 | 0.000 | 5.9(3.09, 11.55) | **0.000** | **3.9(1.99, 8.00)** |
| **Had any bad experiences due to breaking bad news** | | | | | | |
| **Yes** | 30 | 137 | 1 | | **1** | |
| **No** | 37 | 80 | 0.000 | 5.0(2.72, 9.32) | **0.000** | **3.7(1.95, 7.09)** |

## 6. Discussion

BBNs is the "foundation of the therapeutic relationship and the most common procedure" in all forms of patient care, which can affect the patients' faith in their doctors as well as their compliance with their management instructions (8, 13). Skillful delivery of bad news can provide comfort for the patient and family and it helps a professional to discuss the diagnosis or prognosis in a mutually satisfying way. (1, 6, 9). The aim of this study was to assess the awareness to, and practice of protocol-based BBN among resident physicians working in TASH.

This study revealed that only 23 % of the participants have received training on BBNs. This finding is comparable to a study done in Nigeria, which showed only 22% of health care provider had received some form of training in breaking bad news. (23) This is lower than a study done in Korea and Sudan in which about 63.4% and 56.3% received education and training about BBNs respectively and; higher than a study done Pakistan, Iran and SPMMC, Ethiopia where only 5%, 13.6% and 17% of the study participant received education and training about BBNs respectively.(16,17,19,20). This is also different from a study conducted in United Kingdome on consultant obstetrician and gynecologist, where no consultant has received formal training in perinatal bereavement care; despite Stillbirth were their most difficult experiences (27). This difference could be due to the variation of inclusion of BBNs training to the study curriculum and the qualification of the study participants.

Bad experience with breaking bad news is inevitable outcomes in certain occasions. In our study, we showed that 41.2% have such experience, this percentage almost similar to studies done in Brazil, Sudan, Egypt, and Ethiopia where 40.8%, 43%, 50% and 40.8% had bad experience after BBNs respectively (12, 19, 22, 33). This finding is different from a study conducted in Korea which showed that only 30% of trainees had bad experiences. (16) High rate of participants (82.7%) feel stressful during BBNs to the patient or patients' family. In the similar study conducted in Pakistan where 95% of residents had not received any training in communication skills at the undergraduate level , 66% residents reported breaking bad news to be extremely stressful or very stressful (19). This could be explained by lack of training or education on BBNs as the capacity and ideas necessary to break bad news in a caring manner can be developed by producing evidence-based theoretical frameworks and training programs. (8, 29)

The present study revealed 81.5% of participants didn't follow any protocol to deliver bad news to the patients or families. This finding is comparable to a study done in SPMMC, Ethiopia; where 82.1% of participants were not aware of the SPIKES protocol. (15) This is somewhat higher than a study done in Nigeria and Brazil where, Only 8(7.1%) and none of respondents knew of any guideline or instruments for BBNs. (12, 22). This is in contrast to a study conducted in Korea where over 80% of trainees assessed that they followed the SPIKES protocol during BBNs. (16)

In terms of the different items of SPIKES model, we found 59 % and 48% of resident physicians had a good level of knowledge and protocol (SPIKES) adherence/practices, which is comparable to a study done in Egypt where 68.3% and 39.8% of the physicians had a good level of model awareness and practices respectively. (13) This is in contrast to a study done in Saudi Arabia where more than 90% of the participants were residents; only 9% of physicians had good knowledge of BBNs. (14) This study also revealed that usual adherence to SPIKES protocol was in a range of 24–82%, sometimes adherence was in a range of 20–53.5% while never adherence was in a range of 2.8%–20.4%. This consistent with a study done in Sudan which showed usual, sometimes and never adherence, to SPIKES protocol was reported in a range of 35–79%, 20–44%, zero–13.5% respectively. (17) This could be explained by the level of training on BBNs of the participants.

In the present study, physicians who received training on breaking bad news showed a statistically better level of awareness and protocol (SPIKES) adherence/practice. Similarly a study done in Saudi Arabia showed those physicians who received in-service training about BBN had significant better total knowledge, total perceived importance and competence than their colleagues who did not receive training. This is also consistent with a study conducted in China(34) as well as in Egypt where there was statistically significant difference among physicians who received training on BBNs in terms of awareness and protocol (SPIKES) adherence/practice((p-value <0.001).(17)

There was a statistically significant difference among physicians in the present study in terms of their medical specialty where the good knowledge were more evident among resident physician from OBGYN, internal medicine, medical oncology and pediatrics which is different from a study done in Egypt where the best awareness and practice scores were more evident

among family physicians and general practitioners. In another study conducted in Egypt psychologists and oncologists got the highest agreement scores. This finding is expected as oncology patients are the primary population for which BBN recommendations are developed and validated and the guidelines also are based on psychological aspects of which psychologists are most aware. (33) The present study found that the higher the qualifications are, the better the knowledge on BBNs (**AOR=1.9, 95%CI=1.47, 7.46, p=0.037).** This result is comparable to that of a study done in Egypt which there were statistically significant differences in terms of their medical specialty (p-value 0.04 and <0.001) and qualifications (p-value <0.001).(17)

In the current study, the level of protocol(SPIKES) adherence/practice had statistically significant association with the number of years of experience which is similar to a study conducted in Egypt(p=0.04) and Nigeria.(17,22).This can be explained by physicians with more work experience and qualification are more skilled in delivering bad news.(31)

This study revealed that there was significant association between age and the SPIKES scale where participant whose age 31-40 years had less knowledge score as compared to age <30 years on BBNs (AOR=0.29, 95%CI=0.16, 0.56) which is different from similar study conducted in Egypt, where there was no statistically significant difference in terms of awareness and practice to age.(13) This could be due to the fact that this younger age group are more of new graduate and the changing trend that medical schools now tend to incorporate BBNs in the undergraduate curriculum.

## 7. Conclusion and Recommendations

Awareness and protocol (SPIKES) adherence is generally poor among resident physician. Majority of the physician didn't follow any protocol during BBNs. Delivering bad news is a challenging activity and can lead to feelings of depression, stressful and violence. Age, field of specialization, experience in medical practice and having training on BBNs had an association with the adherence on protocol (SPIKES) based BBNs during multiple logistic regression analysis. This study also found that having bad experience and feeling stress full during BBN had a statistically significant relationship with level of training on BBNs. Effective training has important roles in developments of good BBNs skills.

Based on the results of our study, training on the practice of breaking bad news should be included in the study curriculum of students as well as well as physicians' continues professional development across all specialty/disciplines. Undergraduate medical schools, along with postgraduate programs, should be designed in a way to prepare their students starting early on what a proper way of communication is and incorporate SPIKES into their studies. Practical demonstrations and other skill-building exercises should be part of routine teaching process. More research is needed to evaluate the effect of training programs on physicians' BBN practice. Comparison and effectiveness of other BBNs protocol should be assessed in the feature study

## 8. Study strengths and Limitations:

### Strengths

The main point of strength in our study is that it included different medical specialties and qualifications. There are few studies done with regards to BBN KAP in Ethiopia and it can be baseline as references for subsequent study.

### Limitations

The sample size was not large enough and it was done in a single center. Therefore, the generalization of our findings needs caution. The practice of study participants was assessed only with interviews because of shortage of resources; otherwise, it would have been good if it was

triangulated with a direct observation of the practice of the study participants. Other limitations were the population selected comprised Residents only so it was not representative of the entire health professionals, Fellows and consultants were not included, patients' perspectives and feedback regarding a physician's communication skills were not assessed. Future studies should focus on the involvement of practicing physicians, fellow, and consultants, and perceptions and expectations of patients from their physicians with regards to breaking of bad news.

# 9. REFERENCES


1. Berkey FJ, Wiedemer JP, Vithalani ND. Delivering bad or life-altering news. American family physician. 2018 Jul 15;98(2):99-104.
2. Bousquet G, Orri M, Winterman S, Brugière C, Verneuil L, Revah-Levy A. Breaking bad news in oncology: a metasynthesis. Journal of Clinical Oncology. 2015 Aug 1;33(22):2437-43
3. Buckman RA. Breaking bad news: the SPIKES strategy. Community oncology. 2005 Apr 30;2(2):138-42.
4. Harvey JA, Cohen MA, Brenin DR, Nicholson BT, Adams RB. Breaking bad news: a primer for radiologists in breast imaging. Journal of the American College of Radiology. 2007 Nov 1;4(11):800-8
5. Luz R, George A, Spitz E, Vieux R. Breaking bad news in prenatal medicine: a literature review. Journal of reproductive and infant psychology. 2017 Jan 1;35(1):14-31.
6. Witt MM, Jankowska KA. Breaking bad news in genetic counseling—problems and communication tools. Journal of applied genetics. 2018 Nov;59(4):449-52
7. Abazari P, Taleghani F, Hematti S, Malekian A, Mokarian F, Hakimian SM, Ehsani M. Breaking bad news protocol for cancer disclosure: an Iranian version. Journal of medical ethics and history of medicine. 2017;10.
8. Martis L, Westhues A. A synthesis of the literature on breaking bad news or truth telling: potential for research in India. Indian journal of palliative care. 2013 Jan;19(1):2.
9. Chaturvedi SK, Chandra PS. Breaking bad news—Issues important for psychiatrists. Asian Journal of Psychiatry. 2010 Jun 1;3(2):87-9.
10. Phipps LL, Cuthill JD. Breaking bad news: a clinician's view of the literature. Annals (Royal College of Physicians and Surgeons of Canada). 2002 Aug 1;35(5):287-93
11. Ahmady AE, Sabounchi SS, Mirmohammadsadeghi H, Rezaei A. A suitable model for breaking bad news: Review of recommendations. JMED Research. 2014 Jan 1;2014:1-5.
12. Ferreira da Silveira FJ, Botelho CC, Valadão CC. Breaking bad news: doctors' skills in communicating with patients. Sao Paulo Medical Journal. 2017 May 29;135:323-31.
13. Mohasseb M, Hegazy NN. Breaking Bad News to Patients: Physicians' awareness and Practice. The Egyptian Family Medicine Journal. 2021 Nov 1;5(2):129-38.
14. Albunaian NA, Koura MR. Competence of Primary Healthcare Physicians in Breaking Bad News in Eastern Province Capital of Saudi Arabia., 2015:78-96
15. Fisseha H, Mulugeta W, Kassu RA, Geleta T, Desalegn H. Perspectives of Protocol Based Breaking Bad News among Medical Patients and Physicians in a Teaching Hospital, Ethiopia. Ethiopian Journal of Health Sciences. 2020 Nov 1;30(6).

16. Lee HR, Yi SY. Delivering bad news to a patient: a survey of residents and fellows on attitude and awareness. Korean Journal of Medical Education. 2013 Dec;25(4):317

17. Dafallah MA, Ragab EA, Salih MH, Osman WN, Mohammed RO, Osman M, Taha MH, Ahmed MH. Breaking bad news: Awareness and practice among Sudanese doctors. AIMS Public Health. 2020;7(4):758.

18. Sharma K, Shah J, Talib Z, Ali S. Delivery of Difficult News Among Residents at a Tertiary Hospital In Kenya Using a Short Training Video (UNMASKES). MedEdPublish. 2021 May 12;10.

19. Jameel A, Noor SM, Ayub S. Survey on perceptions and skills amongst postgraduate residents regarding breaking bad news at teaching hospitals in Peshawar, Pakistan. JPMA-Journal of the Pakistan Medical Association. 2012 Jun 1;62(6):585.

20. Arbabi, M., Roozdar, A., Taher, M., Shirzad, S., Arjmand, M., Mohammadi, M.R., Nejatisafa, A.A., Tahmasebi, M., & Roozdar, A. (2010). How to Break Bad News: Physicians' and Nurses' Attitudes. *Iranian Journal of Psychiatry*, *5*, 128 - 133.

21. Narayan A, Dromi S, Meeks A, Gomez E, Lee B. Breaking bad news: a survey of radiology residents' experiences communicating results to patients. Current problems in diagnostic radiology. 2018 Mar 1;47(2):80-3.

22. Adebayo PB, Abayomi O, Johnson PO, Oloyede T, Oyelekan AA. Breaking bad news in clinical setting-health professionals' experience and perceived competence in southwestern Nigeria: A cross sectional study. Annals of African medicine. 2013 Oct 1;12(4):205.

23. Gilligan T, Coyle N, Frankel RM, Berry DL, Bohlke K, Epstein RM, Finlay E, Jackson VA, Lathan CS, Loprinzi CL, Nguyen LH. Patient-clinician communication: American Society of Clinical Oncology consensus guideline. Obstetrical & Gynecological Survey. 2018 Feb 1;73(2):96-7.

24. Old J. Communicating bad news to your patients. Family Practice Management. 2011 Dec;18(6):31-5.

25. Shiferaw F, Letebo M, Misganaw A, Feleke Y, Gelibo T, Getachew T, Defar A, Assefa A, Bekele A, Amenu K, Teklie H. Non-communicable Diseases in Ethiopia: Disease burden, gaps in health care delivery and strategic directions. Ethiopian Journal of Health Development. 2018;32(3)

26. Fenta EH, Sisay BG, Gebreyesus SH, Endris BS. Trends and causes of adult mortality from 2007 to 2017 using verbal autopsy method, Addis Ababa, Ethiopia. BMJ open. 2021 Nov 1;11(11):e047095.

27. Nuzum D, Meaney S, O'donoghue K. The impact of stillbirth on consultant obstetrician gynaecologists: a qualitative study. BJOG: An International Journal of Obstetrics & Gynaecology. 2014 Jul;121(8):1020-8.

28. Alshami A, Douedi S, Avila-Ariyoshi A, Alazzawi M, Patel S, Einav S, Surani S, Varon J. Breaking bad news, a pertinent yet still an overlooked skill: an international survey study. InHealthcare 2020 Nov 20 (Vol. 8, No. 4, p. 501). MDPI.

29. Fallowfield L, Jenkins V, Farewell V, Saul J, Duffy A, Eves R. Efficacy of a Cancer Research UK communication skills training model for oncologists: a randomised controlled trial. The Lancet. 2002 Feb 23;359(9307):650-6.

30. Etikan I, Babtope O. A basic approach in sampling methodology and sample size calculation. Med Life Clin. 2019;1(2):1006.

31. Farber N, Urban S, Collier V et al. (2002): The good news about giving bad news to patients, J Gen Intern Med., 17: 914-922.

32. Rasmus P, Kozłowska E, Robaczyńska K et al. (2020): Evaluation of emergency medical services staff knowledge in breaking bad news to patients. Journal of international medical research, 48 (6): 0300060520918699.

33. Mohasseb M, Hegazy NN. Breaking Bad News to Patients: Physicians' Awareness and Practice. The Egyptian Family Medicine Journal. 2021 Nov 1; 5(2):129-38.

34. Wuensch A, Tang L, Goelz T, Zhang Y, Stubenrauch S, Song L, Hong Y, Zhang H, Wirsching M, Fritzsche K. Breaking bad news in China–the dilemma of patients' autonomy and traditional norms. A first communication skills training for Chinese oncologists and caretakers. Psycho-Oncology. 2013 May;22(5):1192-5.

35. Dos Santos KL, Gremigni P, Casu G, Zaia V, Montagna E. Development and validation of the breaking bad news attitudes scale. BMC Medical Education. 2021 Dec;21(1):1-0.

# 10. Annexes

## 10.1. Annexes 1: Information sheet

**Title**: Awareness, Practice and Barrier/hallenges, to Protocol Based Breaking Bad News among Resident Physician Working in Tikur Anbessa Specialized Hospital Addis Ababa, Ethiopia, 2022

**Purpose of study**: to assess the Awareness, Practice and Barrier/hallenges, to Protocol Based Breaking Bad News among Resident Physician Working in Tikur Anbessa Specialized Hospital Addis Ababa, Ethiopia, 2022

**Study procedure**: You will be interviewed about BBN & it will take about 30-45 minutes to complete the questionair.

**Benefits**: There is no direct benefit to you for participating other than the satisfaction because you are contributing to increase knowledge in in this area.

**Risks**: There is no risk in this study. Precaution has been taken to protect the information which you will provide.

**Confidentiality**: Information you provide will be treated as strictly confidential and will be used for the study.

**Compensation**: Your time and participation is appreciated. However, there is no compensation involved.

**Withdrawal from study:** Participating in this study is entirely voluntary and you are entitled to refuse to participate as this will not affect you in any way. There is no penalty for withdrawing.

Do you have any questions? If you need further clarity regarding this study, you may contact:

**Principal Investigator**: Dr. Amir Nuri (resident in Obstetrics and gynecology, from Addis Ababa University, College of health sciences)

**Phone number:** 0938291797

**E-mail**: amirnuri81@yahoo.com

## 10.2. Annexes 2 Consent form

I declare that the purpose, procedures as well as risks and benefits of the study have been thoroughly explained to me and I have understood. I hereby agree to take part in this study.

Signature of participant _____ Date…… / ……/……

## 10.3. Annexes 3: Questionnaire

Questionnaire: Awareness, Practice and Barrier/challenges, to Protocol-Based Breaking Bad News

Date of Interview_____ Code of Study Participant_____

**Part – 1: Sociodemographic Characteristics**

| No. | Question | Responses | remarks |
|---|---|---|---|
| **1.** | **Age** | ○ **Less than 30 years**<br>○ **From 31 to 40 years**<br>○ **More than 41 years** | |
| **2.** | **Gender** | ○ **Male**<br>○ **Female** | |
| **3.** | **Marital status** | ○ **Single**<br>○ **Married**<br>○ **Divorced**<br>○ **Widowed** | |
| **4.** | **Religion** | ○ **Orthodox**<br>○ **Muslim**<br>○ **Protestant**<br>○ **Catholic**<br>○ **Other (Specify) _____** | |
| **5.** | **Field of specialization** | ○ **Internal medicine**<br>○ **Surgery**<br>○ **Obstetrics and gynecology**<br>○ **Pediatric**<br>○ **Orthopedic**<br>○ **Oncology**<br>○ **Anesthesiology**<br>○ **Emergency medicine**<br>○ **Family Medicine** | |
| **6.** | **Years of experience in medical practice** | ○ **< /=5 years**<br>○ **> 5 years** | |
| **7.** | **Received training for BBN** | ○ **Yes**<br>○ **No** | |
| | **If your answer is Yes for question no.7, Where did you receive the training for "BBN"?** | ○ **In medical school, while learning about medical ethics**<br>○ **During seminars or education programs for residents**<br>○ **On the internet or through** | |

| | | | |
|---|---|---|---|
| | | mass media<br>○ By observing senior residents or staff doing the BBN<br>○ Other (Specify) _____ | |
| | **Year of Residency** | ○ 1st year<br>○ 2nd year<br>○ 3rd year<br>○ 4th year<br>○ 5th year | |

**Part 3: Questions regarding experience and training about BBN**

| | Question | Responses | Remark |
|---|---|---|---|
| | **Have you ever delivered bad news to patients or patients' family?** | ○ Yes<br>○ No | |
| | **If your answer is Yes for question no.1, Which protocol did you use** | ○ SPIKES<br>○ ABCDE<br>○ BREAKS<br>○ Other, specify…….<br>○ I didn't use any protocol | |
| | **If your answer is I didn't use any protocol for question no.2, what is your Reason?** | ○ Lack of time<br>○ Lack of private rooms<br>○ Lack of training in BBN<br>○ Cost of treatment<br>○ Other, specify …… | |
| **1.** | **Is there any separate room prepared for breaking bad news in your department?** | ○ Yes<br>○ No | |
| **2.** | **Do you have any bad experiences due to improperly delivered bad news?** | ○ Yes<br>○ No | |
| **3.** | **If your answer is yes for question no.5, what was the bad experience/s** | ○ Depressed<br>○ Unsafe<br>○ Fear full<br>○ Violence<br>○ Leaving the profession<br>○ Other, specify…… | |
| **4.** | **Do you feel stressful when you deliver bad news to the patient or the patients' family?** | ○ Yes<br>○ No | |
| **5.** | **Have you ever avoided delivering bad news to** | ○ Yes<br>○ No | |

| | | | |
|---|---|---|---|
| | **patient/families?** | | |
| **6.** | **If your answer is yes for question no.8, what was your reason?** | ○ **Being blamed**<br>○ **Ending hope**<br>○ **Fear of own reaction**<br>○ **Fear of the patient reaction**<br>○ **Other (Specify) _____** | |
| **7.** | **Do you perceive this task as difficult?** | ○ **Strongly agree**<br>○ **Agree**<br>○ **I don't know /Neutral**<br>○ **Disagree**<br>○ **Strongly Disagree** | |
| **8.** | **How do you rate your ability of breaking bad news?** | ○ **Very Good**<br>○ **Good**<br>○ **Fair Poor**<br>○ **Very Poor** | |
| **9.** | **Do you feel that training is needed for adequate skill development in "delivering bad news" during your residency program?** | ○ **Yes**<br>○ **No** | |
| **10.** | **How important do you think is the incorporation of how to give Breaking Bad News in an undergraduate and postgraduate course?** | ○ **Very important**<br>○ **More or less important**<br>○ **Not important**<br>○ **Neutral** | |
| **11.** | **Are you willing to attend the training or education if you have the opportunity?** | ○ **Yes**<br>○ **No** | |

**Part 2: Questions regarding knowledge about BBN**

| **No.** | **Question** | **Responses** | **Remark** |
|---|---|---|---|
| **1.** | **What is bad news?** | ○ **Any information that caused physical harm to the patient.**<br>○ **Any information that will alter a patient's view of his or her future and result in persistent cognitive, behavioral, and emotional responses** | |

| | | | |
|---|---|---|---|
| | | ○ **Just report of death**<br>○ **I don't know** | |
| **2.** | **Where bad news should ideally be delivered?** | ○ **Multi bedroom**<br>○ **Outside patient's room on the corridor**<br>○ **Quiet place/private room**<br>○ **Any site** | |
| **3.** | **Before breaking Bad News, what the receiver already knew about the situation of the bad news should be entailed** | ○ **True**<br>○ **False**<br>○ **I don't know** | |
| **4.** | **It is important to obtain the patient's permission before delivering the bad news** | ○ **True**<br>○ **False**<br>○ **I don't know** | |
| **5.** | **Before breaking Bad News; which of the following is to be done (more than one answer is possible)** | ○ **Arrange for an appropriate location for the conversation and enough time to give the information and answer questions**<br>○ **Have all the information necessary to conduct an effective encounter**<br>○ **Know who should be present for the conversation**<br>○ **Anticipate the emotional responses of patients and family members**<br>○ **Consider offering a teleconference for people who are important to the patient but cannot be physically present**<br>○ **Explore whether there are financial constraints.** | |

| | | | |
|---|---|---|---|
| | | ○ | |
| **6.** | **Before breaking Bad News, the receiver should be asked how much information he /she wants to know about the situation of the bad news** | ○ **True**<br>○ **False**<br>○ **I don't know** | |
| **7.** | **Amount of desired information about their diagnosis by the patient depends on (more than one answer is possible)** | ○ **Education level,**<br>○ **Age**<br>○ **Sex**<br>○ **Cultures**<br>○ **Religion**<br>○ | |
| **8.** | **After delivering Bad news, the receiver should get written materials about the condition and/or the services available** | ○ **True**<br>○ **False**<br>○ **I don't, know** | |
| **9.** | **During delivering bad news, chance should be given for the receiver to ask questions, express his /her feeling** | ○ **True**<br>○ **False**<br>○ **I don't know** | |
| **10.** | **During breaking bad news, physician should assess the patient's emotions and give emotional support with emphatic responses?** | ○ **True**<br>○ **False**<br>○ **I don't know** | |
| **11.** | **Stress related to providing bad news does not lessen with increasing a physician's years in practice or experience with delivering bad news** | ○ **True**<br>○ **False**<br>○ **I don't know** | |

**Part4: Questions regarding Practice of Protocol (SPIKES) based BBN**

| | Question | Responses |
|---|---|---|
| **A.** | **SETTING** | |
| | **1. Do you arrange for privacy area?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you try to limit interruption and silent electronics?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **3. Do you Allow patient to dress (if after examination)** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **4. Do you Maintain eye contact (defer charting)?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **5. Do you Include family or friend as patient desire?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |

| | | |
|---|---|---|
| **B.** | **Perception** | |
| | **1. Do you Use open ended question to determine the patients understanding?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you correct misinformation and misunderstanding?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **3. Do you identify wishful thinking, unrealistic expectation and denial?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| **C.** | **Invitation** | |
| | **1. Do you determine how much information and detail the patient desire?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you ask permission to give results so that the patient can control the conversation?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **3. If the patient decline, do you offer to meet him or her again in the future when he or she is ready?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| **D.** | **Knowledge** | |
| | **1. Do you briefly summarize events leading in to this point?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you Do you Provide a warning statement to help lessen and facilitate understanding?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **3. Do you Use non-medical term and avoid gargon?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **4. Do you Stop often to confirm understanding?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| **E.** | **Emotion** | |
| | **1. Do you Stop and address emotion as they arise?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you Use empathetic statement to recognize** | ○ **Usually** |

| | | |
|---|---|---|
| | **the patients emotion?** | ○ **Sometimes**<br>○ **Never** |
| | **3. Do you Validate responses to help the patient realize his or her feeling is important?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **4. Do you ask explanatory question to help understand when emotions are not clear?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| **F.** | **Strategy and Summary** | |
| | **1. Do you summarize the news to facilitate understanding?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **2. Do you Set plane for follow up?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **3. Do you offer contact if additional questions arise?** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |
| | **4. Do you avoid saying "there is nothing we can do for you"** | ○ **Usually**<br>○ **Sometimes**<br>○ **Never** |