ORIGINAL ARTICLE

Effectiveness of Training Workshop on Knowledge of Healthcare Providers on Breaking Bad News to Cancer Patients: A Multi- Institutional Study

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ABSTRACT

Background: Bad news is defined as 'any information that adversely and negatively affects the patients' view of their future'. It is one of the most critical aspect in the management of cancer patients. Many models have been developed and studies have shown that breaking bad news is most effective if it is structured following established guidelines. Despite this, healthcare workers who provide care to cancer patients receive little to no formal training in breaking bad news especially in low-resource settings **Objective:** The objective of the study was to train all categories of healthcare providers responsible for cancer patients (including specialist doctors, nurses, psychologists) on breaking bad news and assess effectiveness of the training on their knowledge of breaking bad news. **Methods:** This was a quasi-experimental study to determine the effect of a training workshop on the knowledge of healthcare providers on breaking bad news. Baseline data on socio-demographic characteristics and their knowledge on breaking bad news was assessed prior to training. This was followed by an 8- hour workshop which comprised of lecture series, practical demonstration and group tasks on breaking bad news. A post training evaluation was conducted and the results analysed using frequency, tables, charts and difference of mean tests. **Results** A total of 590 and 528 healthcare providers participated in the pre-test and post-tests respectively. The mean age of healthcare providers was 39.2 ± 9.1 years, with 385 (64.4%) being females and 205 (35.6%) being males. The doctors, nurses and other healthcare providers constituted 210 (35.6%), 211 (35.8%) and 169 (28.6%) respectively. There was significant improvement in knowledge of participants when the pre and post training knowledge scores were compared ($p<0.0001$). However, on disaggregation of participants into geo-political zones, only the North Central ($p = 0.0014$), North East ($p = 0.0024$), South East ($p = 0.03$), and South West ($p = 0.0079$) zones recorded significant increase in the knowledge score of participants following training.
Conclusion: This study demonstrated the effectiveness of training in addressing the knowledge gaps on breaking bad news among healthcare providers of cancer patients.

Keywords: Knowledge, Breaking Bad News, Cancer, SPIKES Model

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Introduction

Bad news is defined as 'any information that adversely and negatively affects the patients' view of their future'.[1] It was recognized generally that

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breaking bad news to cancer patients was an event that created much anxiety among healthcare providers as well as patients and their caregivers.[2]

For the healthcare worker, communicating bad news is actually considered as an occupational hazard experienced by them.[2] Healthcare providers generally dread being bearers of bad news, eliciting patients' emotions, causing pains to patients, or they themselves expressing emotions in the presence of their patients. These factors can adversely affect the healthcare providers' propensity for error, their stress level and job satisfaction.[3-5]

Perhaps the effect of breaking bad news is most pronounced on cancer patients.[6] Studies have confirmed that patients want to be told the truth about their condition without hiding facts.[7,8] However, if not skillfully executed, breaking bad news can cause significant issues for them.[9,10] The news may be presented at an inopportune time, may not be compatible with economic or their current employment status, or patients and family may have different expectations upon receiving the bad news. Furthermore, breaking bad news may negatively affect patients' pain control, adherence to treatment and general satisfaction with care received.[10-12]

There is general consensus among healthcare providers that breaking bad news to cancer patients is herculean yet critical task that requires effective communication skills, empathy and cultural sensitivity.[13-15] Therefore, healthcare providers of cancer patients need to be equipped with knowledge, attitude and skills to effectively take on the task. Many models have been developed to aid in effective communication of bad news to cancer patients. These include the S-P-I-K-E-S, PEWTER; A-B-C-D-E and B-R-E-A-K-S models amongst others.[15-18] However, the S-P-I-K-E-S model is the oldest and most widely used because of its simplicity.[18] The model simplifies breaking bad news into six practical steps which include: Setting up interview, Assessing patients' Perception, Obtaining patients' Invitation, Giving Knowledge, Addressing patients' Emotions and Summarising. [18]

Studies have demonstrated that many cancer healthcare providers are involved in breaking bad news to cancer patients.[19,20] Despite this, majority have never been formally trained on this critical aspect.[19,20] A significant proportion of them do not have adequate knowledge on breaking bad news.[19,20] Furthermore some studies have affirmed the need for formal training on breaking news among healthcare providers of oncology patients.[21,22]

In Nigeria, there is paucity of study on level of knowledge on breaking bad news to cancer patients. A study involving 5 African countries including Nigeria focused on physicians and nurses; found low level of knowledge on breaking bad news, with only 40% of nurses and 20% of physicians having had formal training on breaking bad news.[23] Furthermore, only 20- 25% of respondent physicians and nurses had consistent strategy on breaking bad news.[23] Another study on breaking bad news among clinical oncologist providing care for cancer patients in Nigeria identified major gaps in breaking bad news which include its overwhelming nature and need for training.[21]

This novel study, therefore aim to document the protocol of training workshop for healthcare providers across the six geo-political zones in Nigeria and also assess the effect of the workshop on their knowledge of breaking bad news.

Methodology

Study Area

The workshop was conducted across the six geo-political zones of Nigeria, using designated Federal Tertiary Hospitals as Study Sites. These hospitals were National Hospital, Abuja (North-Central Zone), University of Maiduguri Teaching Hospital, Borno State (North-East Zone), Usmanu Danfodiyo University Teaching Hospital, Sokoto State (North-West Zone), University of Nigeria Teaching Hospital, Enugu State (South-East Zone), University of Benin Teaching hospital, Edo State (South-South Zone) and Lagos University Teaching Hospital, Lagos State (South-West Zone).

Plate 1. Map of Nigeria showing the states in which the training/study on breaking bad news was carried out

Study Design

This was a quasi-experimental study to determine the effect of a training workshop on the knowledge of healthcare providers on breaking bad news.

Study Population

The study population were participants of the training on breaking bad news. These were healthcare professionals of all categories (including specialist doctors, nurses, psychologists) within the designated hospitals, drawn from various specialties, including Doctors, Nurses, and Social Workers, with prior experience in oncology,

palliative care, or counseling of cancer patients. They were recruited through the Office of the Chairman, Medical Advisory Committee (CMAC) of each Hospital. Each hospital selected these healthcare professionals across all the departments providing care to cancer patients based on convenience sampling

Sampling Method and Sample Size

A total of 632 healthcare professionals across the six geopolitical zones were trained on breaking bad news. Purposive sampling of participants of the training workshop was done based on their experience in providing healthcare for cancer patients. Informed consent was obtained from them before participating in the study. A total of 590 participants completed the pre-test while 528 completed the post-test questionnaire.

Intervention

A workshop training on breaking bad news was conducted for 3-consecutive days in each of the six selected centres, with each centre having three cohorts. Each cohort comprises of 30-40 participants trained on breaking bad news to cancer patients over an 8 hour period. A total of 18 cohorts were trained across the six geo-political zones. The workshop consisted of a combination of didactic lectures, role-play exercises, group discussions, and interactive sessions designed to improve participants' knowledge, attitude and confidence in breaking bad news. Core topics included: The Psychological Impact of Breaking Bad News, Communication Models for Breaking Bad News (e.g. SPIKES model), Cultural Sensitivity and Ethical Considerations, Handling Difficult Reactions and Providing Emotional Support, The Role of Nurses as well as the Role of Multi-Disciplinary Teams in Breaking Bad News. These lectures and activities were conducted by trained facilitators from different Institutions across the country with expertise in psycho-oncology and communication skills. The assessment of participants' knowledge on breaking bad news was done prior to commencement and after completion of the 8-hour training.

Plate 2. **Content of training workshop on breaking bad news for healthcare providers**

Time	Activity	Objectives/ Content
8:30am-9:00am	Administer Pre-Test Questionnaire:	Assess baseline knowledge, perception and practice of breaking bad news amongst healthcare workers managing cancer patients
9:00 am - 9:30am	**Session 1** Introduction and Overview of Breaking Bad News	**Objectives** -Provide an overview of why breaking bad news in oncology is crucial and introduce core concepts. **Content** - Definition and importance of breaking bad news - Common challenges and emotional impact on healthcare providers and patients - Importance of cultural sensitivity and patient-centered care
9:30 am - 10:10 am	**Session 2** The Psychological Impact of Bad News on Patients	**Objective** -Understand the psychological effects on patients and families after receiving bad news. **Content** - Emotional responses: denial, anger, shock, fear, and grief - How cancer diagnoses affect patients' mental health - Strategies for managing psychological distress in patients
10:10 am-10:25am	**Tea Break**	
10:30am - 11:30am	**Session 3** Communication Models for Breaking Bad News (The SPIKES Model)	**Objective** -Teach the step-by-step SPIKES model to structure bad news delivery. **Content** - **S:** Setting up the interview - **P:** Assessing the patient's perception - **I:** Obtaining the patient's invitation - **K:** Giving knowledge and information - **E:** Addressing emotions with empathetic responses - **S:** Strategy and summary - Interactive Component: Role-playing sessions to practice SPIKES model
11:40 am - 12:25pm	**Session 4**	**Objective** -Highlight cultural and ethical challenges in breaking bad news.

	Cultural Sensitivity and Ethical Considerations	**Content** - Cultural variations in receiving bad news across Nigeria - Ethical issues: truth-telling vs. withholding information, patient autonomy - Handling religious and familial influences in cancer care - Activity: Group discussions on culturally sensitive communication
12:25pm - 01:25pm	**Session 5** Handling Difficult Reactions and Providing Emotional Support	**Objective** - Equip participants with strategies for responding to strong emotions and difficult reactions from patients and families. **Content** - Recognizing and managing emotional outbursts, denial, and withdrawal - Effective listening and maintaining emotional presence - Techniques to offer emotional support and build rapport - Interactive Component: Simulation exercises focusing on managing emotional reactions
01:25pm - 02:00 pm	**Lunch Break**	
02:00pm - 02:45pm	**Session 6** The Role of Oncology Nurses in Effective Communication	**Objective** - Discuss the specific role of a Nurses in supporting patients through the Breaking Bad News Process. **Content** - Our Oncology Nurses to put heads together and develop content in this regard.
2:45 pm - 3:30pm	**Session 7** The Role of Multidisciplinary Teams in Breaking Bad News	**Objective** -Discuss the role of a collaborative team in supporting patients after bad news. **Content** - Importance of involving nurses, counselors, and social workers - Continuity of care and follow-up after the news is delivered - Case discussions involving a multidisciplinary approach
3:30 pm - 3:45 pm	**Short Break**	
3:45 pm - 4:45 pm	**Session 8** Case Studies and Role Play	**Objective** -Practical application of knowledge through real-life scenarios and role play. **Content** - Case study presentations on breaking bad news in various clinical situations - Group role plays where participants alternate between healthcare worker and patient roles - **Debrief**: Feedback and lessons learned from role-playing exercises
4:45 pm - 5:00 pm	**Session 9** Closing Remarks and Question & Answers	**Content** - Recap of key takeaways from the training - Post-Test Questionnaire - Open floor for questions and clarifications - Distribution of training materials for future reference - Feedback collection from participants - Post training evaluation and feedback

Data Collection Tool

Data was collected with the aid of a semi-structured questionnaire. The questionnaire was designed using Kobocollect®, a free online data collection tool. The questionnaire comprised two sections, namely: Socio-demographic characteristics and knowledge on breaking bad news. The latter section was made up of 10-item questions assessing knowledge on breaking bad news to cancer patients. The questions include models on breaking bad news, clinical scenerios and approaches to physician-patient communication during breaking bad news sessions.

Data Collection Method

The questionnaire was validated in a step-wise approach, first by establishing face validity where experts on psycho-oncology reviewed the questions and made relevant input. Then it was pre-tested with 35 participants and was assessed for internal

consistency and duplicity. The final questionnaire developed was administered electronically to the participants 10-20 minutes before commencement of the workshop. The same questionnaire was administered to them after the 8-hour training workshop on breaking bad news. The questionnaire was administered by the team leaders of the training workshop for each of the six training centres.

Statistical Analysis

Data was extracted from Kobo Toolbox in Excel sheet. Data cleaning was done and then input into the Statistical Package for Social Sciences (SPSS) version 25 for analysis. Variables were summarized using tables and charts. Quantitative variables such as age of participants and duration of practice were presented using mean (standard deviation), while categorical variables were summarized using frequencies (%). The socio-demographic variables of participants pre-test and post-test were compared using difference of two means and chi square tests to ensure there was no significant difference between the two groups, so that the differences in the knowledge between the two groups is attributable to the training workshop and not differences in their socio-demographic characteristics. For each of the 10 questions contained in the knowledge section, a score was assigned. Each correct answer was awarded a score of 1, whereas wrong answers were scored 0. For each participant, the total knowledge score was computed by summing up the scores obtained by the participants, which ranged from 0 (lowest) to 10 (highest). The knowledge grade was determined by grouping the overall knowledge score as follows: Poor (0-4) Average (5-7) and Good (8-10). The difference of mean test (ANOVA) was used to assess for significant difference between the pre- and post-training knowledge score. The association between knowledge grade and socio-demographic variables was assessed using Chi square test. The level of significance α was maintained at 0.05.

Ethical consideration

Informed consent was obtained from all study participants before administering the pre-test and post- test questionnaires. Ethical approval was obtained from relevant board. The participants' autonomy and confidentiality were strictly enforced and data collected was de-identified to ensure participants remain anonymous.

Results

A total of 628 healthcare providers were trained on breaking bad news to cancer patients across the six geo-political zones. Of these, 590 participated in the pre training test, and 528 of them participated in the post training survey. Table 1 showed the socio-demographic characteristics of the participants in this study. The mean age of healthcare providers was 39.2 ± 9.1 years, with 385 (64.4%) being females and 205 (35.6%) being males. The doctors, nurses and other healthcare providers constituted 210 (35.6%), 211 (35.8%) and 169 (28.6%) respectively. There was no significant variation in the socio demographic characteristics of the pre- training and post training population, indicating that the same population was retained for pre-test and post- test (Table 1). Figure 1 shows the distribution of participants of the study across the six geopolitical zones of Nigeria. Majority 359 (60.8%) of the participants have never received any prior formal training on breaking news to cancer patients, while 231 (39.2%) had received a formal training. Of those who ever received training on breaking bad news, 100 (43.2%) had training over 2 years.

Prior to the training, 318 (53.9%), 222 (37.6%) and 50 (8.5%) participants had good, average and poor knowledge on breaking bad news respectively; which was significantly associated with their geo-political zone ($p < 0.00001$), age ($p = 0.011$) and profession ($p < 0.00001$) (Table 2). After the training, 342 (64.7%), 164 (31.1%) and 22 (4.2%) of the participants had good, average and poor knowledge of breaking bad news respectively (Figure2). There was significant improvement in knowledge of participants when the pre and post training knowledge scores were compared ($p<0.0001$) (Table 3). However, on disaggregation of participants into geo-political zones, only the North Central ($p = 0.0014$), North East ($p = 0.0024$), South East ($p = 0.03$), and South West ($p = 0.0079$) zones recorded significant increase in the knowledge score of participants post training.

Table 1. Socio-demographic characteristics of healthcare providers for the BBN training

Variable	Pre- training (n= 590)	Post- training (n= 528)	Test statistics	P value
Mean Age (Years)	39.2 ± 9.1	38.8 ± 9.2	0.673	0.412
Gender				
Male	205	180	0.850	0.434
Female	385	340		
Marital status				
Married	441	388	0.231	0.631
Not married	149	140		
Profession				
Doctors	210	182	1.03	0.598
Nurses	211	204		
Others*	169	142		
Mean years of professional experience	11.6± 7.9	11.4±7.9	0.141	0.707

*Others include psychologist, social workers, radiographers, health information officers etc

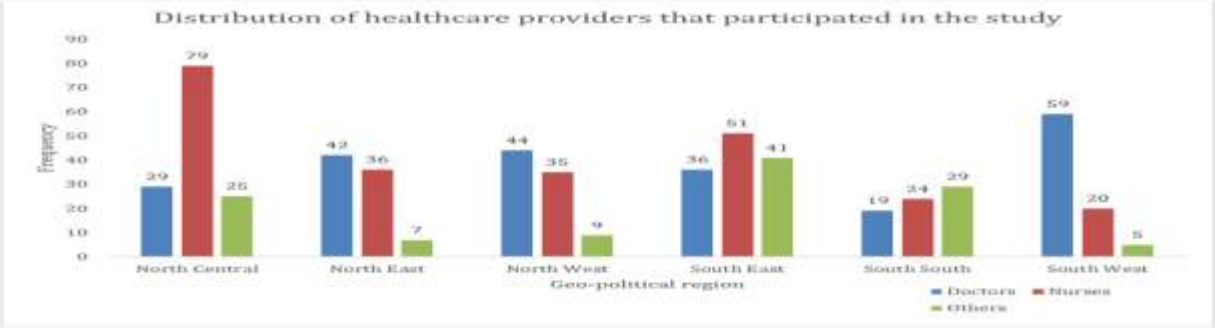

Figure 1. Distribution of healthcare providers who participated in the study (n= 590)
*Others include psychologist, social workers, radiographers, health information officers etc

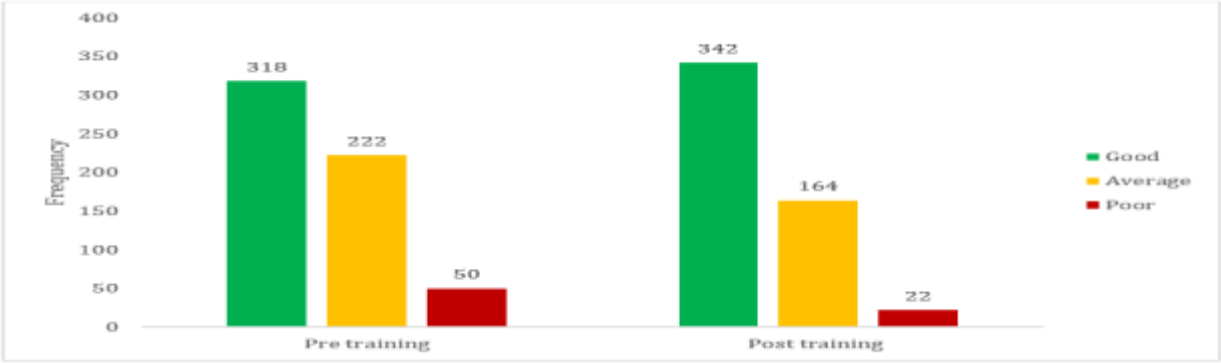

Figure 2. Knowledge grade of healthcare providers towards breaking bad news (pre training n=590, post training n=528)

Table 2. Knowledge grade of participants on breaking bad news prior to training

Variable	Knowledge grade			Statistics		
	Good	Average	Poor	X^2	Df	P value
Geo-political zone						
North Central	66	59	8	47.9	10	<0.00001
North East	49	28	8			
North West	51	32	5			
South East	49	62	17			
South South	35	26	11			
South West	68	15	1			
Gender						
Male	120	74	11	5.03	2	0.08
Female	198	148	39			
Age (years)						
≤30	58	39	19	16.52	6	0.011
31-40	132	85	9			
41-50	93	73	15			
>51	35	25	7			
Marital status						
Married	244	162	35	1.04	2	0.59
Not married	74	62	13			
Profession						
Doctor	161	48	1	92.13	4	<0.00001
Nurse	101	93	17			
Others*	56	81	32			
Years of practice experience						
< 5	52	50	16	9.34	4	0.053
5-10	119	78	19			
>10	147	94	15			
Prior formal training on BBN						
Yes	131	78	22	2.55	2	0.287
No	187	144	28			

BBN: breaking bad news

*Others include psychologist, social workers, radiographers, health information officers etc

Table 3. Healthcare providers' overall knowledge score for breaking bad news

Geo-political zone	Mean score	Standard deviation	Number of participants	Test statistics	P value
North Central					
Pre training	7.13	1.73	133	3.23	0.0014
Post training	7.81	1.62	123		
North East					
Pre training	7.41	2.08	85	2.28	0.0024
Post training	8.10	1.85	84		
North West					
Pre training	7.55	1.80	88	0.92	0.36
Post training	7.79	1.59	82		
South East					
Pre training	6.70	1.94	128	2.15	0.03
Post training	7.18	1.61	127		
South South					
Pre training	7.15	2.06	72	1.41	0.16
Post training	7.71	1.64	35		
South West					
Pre training	8.39	1.22	84	2.69	0.0079
Post training	8.90	1.18	77		
Total					
Pre training	7.32	1.05	590	4.93	<0.0001
Post training	7.85	1.68	528		

Discussion

The mean age of participants in this study was 39.2 ± 9.1 years, with 64.4% being females. This is consistent with a similar study that assessed physicians' knowledge, attitude and practice towards breaking bad news, where the mean age of physicians was 37.4 ± 8.7 years and 61% of the participants being females.[20] Another study across some selected African countries on breaking bad news also had 62% of respondents being females.[23] There was also similarity in the distribution of experience of healthcare providers in this study when compared to a similar study conducted in Egypt (50.8% vs 54.0% of respondents have > 10 years professional experience) [20]

Prior to the training workshop, the study found that knowledge of the healthcare providers on breaking bad news to cancer patient was significantly associated with their geo-political zone, age, and profession. The South West Geo-political zone had high proportion of healthcare providers with good knowledge (81%), when compared to other regions such as North Central, South South and South East. This finding can be explained partly because the South West region had high proportion of doctors compared to other cadres of professional who participated in the study. Also, it may partly be a result of the region being relatively ahead of other regions in training their health workforce on breaking bad news as earlier studies on breaking bad news in Nigeria have emanated from that region.[24, 25] The study found out that doctors significantly had better knowledge onbreaking bad news compared to nurses and other healthcare providers. This may not be unconnected to the fact that the burden of breaking bad news to cancer patients lie predominantly on the physicians.[26-28]

From this study, about three-fifth of the participants never received any formal training on breaking bad news, with a little above half of them having good knowledge and about half having average or poor knowledge on breaking bad news prior to training This was consistent with other studies that documented some level of knowledge good knowledge on breaking bad news among healthcare providers.[20,26] This may indicate that there is a good culture of transfer of knowledge and skills from senior to junior healthcare providers, which ultimately helped in building knowledge on breaking bad news despite inadequacy of formal training available to them.

Following the training workshop, there was significant overall improvement in the healthcare providers' knowledge on breaking bad news, which affirmed the effectiveness of training on improving knowledge and skills of breaking bad news by healthcare providers.[29] This finding is supported by an Egyptian study which deduced that training on breaking bad news reduced the incidence of healthcare provider having bad experience from carrying out the task.[20] Also, another study, a randomized control trial that divided study participants into intervention and control groups, came to similar conclusion as this study, on training being effective in improving skills and knowledge on breaking bad news.[30]

Conclusion

The study found that formal training on breaking bad news was inadequate for healthcare providers, and demonstrated the effectiveness of training in addressing the knowledge gaps on breaking bad news among healthcare providers. Breaking bad news is a very much dreaded but vital aspect in the management of cancer patients that requires the right set of skills, knowledge and attitude to achieve good outcomes for patients, their caregivers and also healthcare providers.

We recommend that oncology centres should organize training workshops on breaking bad news periodically for healthcare providers involved in cancer care. We also recommend that every cancer center should adopt/adapt a suitable protocol on breaking bad news. This will help in training of younger healthcare providers and reduce variability in patients' experiences from breaking bad news sessions.

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