Breaking bad news training in Kenya: A report on Assessment of perceived competence in breaking bad news among resident doctors at Moi Teaching and Referral Hospital Eldoret Kenya.

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Background: Breaking bad news refers to a medical procedure of passing unfavourable medical information to patients about their illnesses. Competence in this skill is required in medical practice. Specific guidelines in delivering bad news have been developed to assist doctors break bad news. There is increasing burden of life-threatening diseases in Sub Saharan Africa that necessitated relooking at the training of breaking bad news skills among doctors.

Aims and objectives: The objective of this study was assessing the perspectives of residents in their competence in Breaking Bad News tasks and if there is any relationship between residents' perceived competence and sociodemographic characteristics.

Methods: A mixed methods approach used to collect data. Qualitative data and focus group discussions and in-depth interviews; quantitative data; perceived competence, was measured using aspects of competence, self-efficacy Empathy and Physicians beliefs. Study population constituted postgraduate doctors who were 240 at that time 30% sampling ratio used to select a sample of 80, purposeful sampling used to identify 7 residents doctors for focus group discussions and 3 lecturers for in-depth interviewed. Data was collected using questionnaires and focus group discussion guide and in-depth interview guide, quantitative data was cleaned and entered and analyzed in SPSS version 22, descriptive statistics used to describe, and inferential statistics used in comparing data. Qualitative data was analysed and presented thematically. A p-value of <_ 0.5 was set as significant for all tests.

Results: Competence in breaking bad news varied on three aspects: self-efficacy 134% of the normed value, however focus discussion groups this is overrated, empathy 74% of normed value, physicians beliefs scores 160% of the normed value, (N=80) 45% and 55% of the participants were female and male respectively 46% were in part 1 54% in part 2. Gender did not significantly influence competence self-efficacy t(78)=0.152 p= 0,876, empathy t(78)=0.015 p= 0.897 physician belief score t(78) =0.121 p=0.736 while level of training significantly influenced with part 2 residents being better in all aspects of competence; self-efficacy t(73)=0.427, p= 0.004., empathy t(73) 0.331 p =0.023, physician belief Score t(73) =0.213 p= 0.018.

Conclusion: Resident doctors do not perceive themselves to be competent in breaking bad news tasks. Additional training and level of training significantly influences all aspects of competence in breaking bad news.

I. INTRODUCTION

Breaking bad news (BBN) is a form of medical counselling whose purpose is to pass unfavourable medical information to a patient and or caregiver.

Bad news has also be defined or viewed objectively as diagnosis of potentially terminal disease, poor prognosis, failure of treatments and impending death (Heyse-Moore, 2009) Other researchers like Ptacek, J, T. and Tara, L. Eberhardt view it psychologically as 'cognitive, behavioural or emotional deficit in the person receiving the bad news which lasts beyond the bad news encounter' (Ptacek, 1999), also as life prospects as: "any news that drastically and negatively alters the patient's view of her or his future." (Buckman 1992) In some African countries as a serious message requiring elders who represent the gods to deliver (Adebayo, 2013). In all these viewpoints BBN are seldom singular as several disturbing events are likely to unfold as the state of living and dying blurs (Lawrence, 2013) Most clinicians have not received formal training in breaking bad news except that given during their undergraduate training which is given in their first and second year of training and is doubtful if it can support this frequent and difficult task (Simpson, 1991). Studies show that key communication skills elements in breaking bad news have been identified (Engel, 1990) (Nadelson, 1993). This communication can only exist if the physician can comprehend the patient's cognitive and affective states (Hojat M. S., 1995) The physician should therefore have empathy and right belief towards the patients' psychosocial issues. Building on previous research empathy is the critical attribute required to precipitate a therapeutic mutual understanding between physician and patient. Research indicates, however, that these skills can be taught learned using conventional and experimental methods (Spiro H. , 1992) (Spiro H. M., 1996). Clinicians are confronted with this difficult task early in their carriers and studies show that they do not feel sufficiently prepared for these tasks and this informed the choice of residents in this study (Chris, 1994) (Lu, 1995).

However recently from the 1990s, conferences and intense literature reviews have yielded guidelines in breaking bad news training Girgis, 1997, Fallowfield L. 2004, Buckman 1992, Harden, 1996, Kurtz S. S., 2003 This culminated in the signing of international consensus statement in Amsterdam in 1998 (Makoul G. S., 1999). Among the recommendations was the development of a coherent framework of teaching and assessment of communication including BBN. This was done in North America, Canada and the United Kingdom ((Makoul G. , Essential elements of communication in medical encounters: The Kalamazoo consensus statement., 2001) (Simpson, 1991). This led to improvement of this type of communication in the western countries however poor communication, particularly Asia and third World countries including Africa continued.

Reviewing the globalization; Schwarz envisioned a global physician who would have universal competencies. This competencies were given to Institute of International Medical Education (IIME) to develop and among them communication skills including BBN (SCHWARZ, M.R) These competencies were incorporated into the curricular in all medical universities in the developing world including Moi University and the older Universities like University of Nairobi, University of Makerere in Uganda and Ibadan in Nigeria. Surveys done as late as 2020 showed that African countries remain behind in this important skill however the Asian countries had achieved competence (Abbas et al. 2020). Despite evidence based training and inclusion in curricular, competence in this skill remains low and poor performance in BBN especially with cancer patients, has been shown to be associated with worse clinical and psychosocial outcomes, including worse pain control, worse adherence to treatment, and confusion over prognosis and dissatisfaction at not being involved in decision making (Hanratty, 2012). In other words, harm to patients which is against the norms of medical practice. The current study was done therefore to shed some light into why doctors continue to lack competence in this important skill when evidence based content, training methodologies have been included in the curricular.

Sociodemographic characteristics including gender, experience, additional training have been reported to significantly influence perceived competence particularly where empathy is used. self-report data consistently indicates greater empathy in women compared with men, however in experimental and neuropsychological measures show no consistent gender effect (Sandra et al. 2017). Additional training has bee shown to be improve competence in breaking bad news (Luciana, B. et al. 2019, Gorniewicz et al. 2017 and Jenkins et al. 2002)

II. MATERIAL AND METHODS.

The study was approved Institutional Research Ethics Committee (IREC), at the CHS Moi University (FAN: IREC 1716) year 2016.

Research paradigm

Assessment of a task in medical practice may be formative or summative therefore the assumptions underpinning this study was the students' perspectives of breaking bad news which can neither be constructed nor directly observable. Thus, the study was positioned within pragmatism paradigm where researchers focus on the 'what' and 'how' of the research problem (Creswell, 2007).

Research design

A Mixed methods study approach was used to gather data in this sequential explanatory mixed study. In line with the research questions, sampling was convenient (resident doctors who trained in any medical school in Kenya and working in MTRH). The primary quantitative data was produced using self-administered questionnaires related to aspects of competence (self-efficacy scale, Jefferson scale for physician empathy and Physician belief scale) and qualitative data method of focus group discussion (FGD) and in-depth interviews with the teachers, an appropriate method for explanatory research, (Creswell 2007) was used to explore students' perceptions perceived competence in breaking bad news tasks.

Research questions

Students' assessed in relation to the following research question:

- Do residents doctors perceive themselves to be competent in breaking bad news tasks?
- Do sociodemographic characteristics of residents influence their perception of their competence in BBN?

Data production

Quantitative data was collected using the three questionnaires, data was checked for completeness, cleaned and entered in SPSS version 22 for analysis. After analysis of quantitative data, qualitative data was then collected from FGDs and in-depth interviews where several question were asked to a group of resident doctors and lecturers, how were they teach and how they were taught communication skills including BBN, did they comprehend BBN? What are their coping mechanisms following breaking bad news tasks?

The information obtained coded guided by IPO mode (Bushnell, 1990) and themes were generated after further scrutiny of data to complete analysis.

III. RESULTS

Table 4.2.1. Demographic characteristics of the participants

Variable		Number	Percentage
Gender	Male	44	55
	Female	36	45
Department	Reproductive Health	15	18.8

	Orthopaedics	15	18.8
	Child health and paediatrics	14	17.5
	Internal medicine	10	12.5
	Family medicine	5	6.3
	Oncology	1	1.3
	Radiology	10	12.5
	General Surgery	10	12.5
Experience	Less than 5 years	79	
	More than 5 years	1	
Additional training	Yes	10	12.5
	None	55	68.5
	Observed	15	18.8

Participant	Experience in years	Highest level of training
1	More than 10	MSc Counselling psychology
2	More than 10	PhD human communication
3	More than 15	PhD human communication

Participant	Experience in yrs	Additional training	Qualifications
1	12	Yes	MBCHB, MMED
2	5	No	MBCHB
3	4	No	MBCHB
4	4	No	MBCHB
5	5	Yes	MBCHB
6	4	No	MBCHB
7	5	No	MBCHB

Table 4.2.1. shows demographic characteristics of residents, lecturers and documents analysed; A total of 80 participants were recruited for the study. Reproductive health students were 15 (18.8%), orthopaedics was 15 (18.8%), paediatrics were 14 (17.5%), radiology 10 (12.5%), Internal medicine 10 (12.5%), family medicine 5 (6.3%) and reproductive health oncology 1 (1.3%). There were more men than women male 44 (55%) and female 36 (45%). All except 1 of the participants had worked below five years after graduation. The mean age of the participants was 37.4 years.

Residents for focus groups discussions (FGDs) were divided into two groups for focus group discussions, one consisting of four residents with no additional training and the other with three residents, two of whom, with additional training in breaking bad news tasks.

In-depth interviews, focus groups discussions were conducted at Moi University School of Medicine, of the three lecturers two were male and one was female. Three of the resident doctors were female and 4 were males.

Table 2a: Aspects of competence: Self-Efficacy scores by departments and by Gender

Variable	Department	Mean	SD	T test	P value
Department	Reproductive Health	99.867	4.414		
	Orthopaedics	85.267	4.414		
	Paediatrics	90.786	5.405		
	Internal medicine	92.800	5.405		
	Family medicine	96.400	7.66		
	Oncology	-	-		
	Radiology	82.00	5.405		
	General Surgery	102.80	5.405		
Additional training	Yes	89.18	16.54	0.334	0.004
	No	76.17	14.74		
Level of training	Part 1	83.24	4.87	4.63	0.003
	Part 2	96.48	16.4		
Gender	Male	90.48	18.41	0.972	0.876
	Female	94.39	17.24		

Table 2b.: Aspects of competence: Empathy scores for residents by departments and gender

Variable	Department	Mean	SD	T test	P value
Departments	Reproductive Health	85.46	5.27		
	Orthopaedics	84.06	5.27		
	Paediatrics	80.78	5.46		
	Internal medicine	81.40	6.45		
	Family medicine	81.61	9.13		
	Oncology	-	-		
	Radiology	85.80	6.46		
	General Surgery	90.20	6.45		
Additional training	Yes	80.14	16.78	0.999	0.018
	No	69.32	11.47		
Level of training	Part 1	80.48	5.56	4.26	0.021
	Part 2	85.66	5.20		
Gender	Male	81.77	20.79	1.310	0.897
	Female	87.56	18.16		

Table 2c.: Aspects of competence: Physician belief scores by departments and by Gender

Variable	Department	Mean	SD	T test	P values
Department	Reproductive Health	105.87	23.89		
	Orthopaedics	131.20	31.82		
	Paediatrics	107.50	17.74		
	Internal medicine	103.90	24.82		
	Family medicine	113.00	11.95		
	Oncology	-	-		
	Radiology	109.00	19.40		
	General Surgery	111.00	17.93		
Additional Training	Yes	111.4	22.54	2.00	0.047
	No	99.7	12.21		
Level of training	Part 1	118.21	31.107	1.931	0.010
	Part 2	107.77	20.242		
Gender	Male	121.02	32.14	1.792	0.736
	Female	109.83	21.21		

Tables 2a, b and c show Self-efficacy scores, empathy scores and physician beliefs scores of residents respectively. Overall score was much higher than other studies. Other studies like one by Hudley G. in Uzbekistan in the former Soviet Union (Hudley, 2008). The qualitative study findings shed light on these findings: 68.75% of the residents have no formal training nor observed a faculty member breaking bad news in BBN and overall only 20% of the residents rated themselves good in BBN suggesting that the high scores in self-efficacy were found to be un likely to be true. One of the narratives from a resident; 'Insufficiency of training was one of the other important hindrances 'This is a situation that actually puts us as medics in a very difficult spot, hence us requesting some dialogue on this issue. BBN is very complex I'm sure to the knowledge of whoever will receive this information. We love our work and would wish our patients all the recovery they can get from us, but the BBN issue is an entity that cannot be ignored' One other residents said; 'we were not taught how to handle the situation we find ourselves in practice' One resident said that 'he didn't think what they learnt in first and second could be applied to the complex skills required in breaking bad news'

Other studies utilizing subjective self-administered questionnaires have been shown be high and the explanation is thought to be natural, residents over rate themselves to look normal; Alen and der Velden (2005) this collaborated by a study by Tongue et al. (Tongue, 2005) 75% of orthodpedic surgeons over rate the selves.

Jefferson Scale for Physician Empathy: The scores shows Empathy scores of residents and gender with the normed value for comparison. Generally, residents scored way below the normed empathy scores of 115. Surgery had the highest

empathy scores at 90.20 while paediatrics scored the lowest at 80.786. Female score better than males at 87.56 and 81.77 respectively however this was not statically significant when t tests showed a p value of 0.194 at set P value of 0.005. These findings are similar to the scores of residents in developing countries where humanistic attributes have not been factored in the curriculum and indication of mainly biomedical curriculum model. Empathy is a cognitive virtue of being able to put oneself in the shoes of the patient and from that perspective perfume BBN. This is the most crucial and robust quality required for any form of competence in BBN and the low scores can only mean that residents are incompetent in BBN.

Higher scores in a study by Hojat et al. in 2005, in the developed world where biopsychosocial curriculum model has been applied over the years, (Hojat M. M., 2005) JSPE scores were even better than the normed value JSPE for the present sample were 117.8

Similar findings in Nepal medical profession students and Indian students, the score was 97.28 slightly higher than our study. (Krishna 2017). Lucian B et al (Luciana B, 2019) in S America found similar findings lower than those in the developed world

Physician belief scores: Show the physician belief scores by departments and gender and a normed value of 72 for comparison. Department of orthopaedics residents scored the highest at 131.2 while department of internal medicine scored the lowest of 103.9. Females scored lower that males 109.83 and 121.02 respectively. T test done to compare females and males was statistically significant at M>F p value 0.005. The higher the scores the less the confidence in psychosocial aspects in patients the residents have. These findings show that all our residents do not belief that patients psychosocial issue relating to BBN are important; in other words if a patient cries when give bad news, 'it is none of my business, I will only deal with the organic disease the patient has'. Similar findings by Jurkovich et al., McLennan and associates (1999) and Jenkins and Fallowfield (2002). The low empathy scores and poor performance in PBS are indicators of biomedical curriculum model, this was confirmed by a study by Giuliani, 2020 found of 7792 identified curricular items in 17 curricula, 780 (10%) aligned with the humanism framework which are attributes of Respect, Compassion, and Empathy which represents a largely Western perspective concerning what constitutes humanism in health care

Perceived competence and sociodemographic characteristics of residents

Gender and perceived competence: All aspects of perceived competence were not significantly influenced by gender of the residents; Self-efficacy T test= 0.972 and p value of 0.876. Empathy scores; females score higher than males however this was not statistically significant T test=1.310 and *p* value of 0.897. Physician beliefs were similar females score was

higher than males but not statistically significant T test= 1.792 and a *p* value of 0.736.

Additional Training and perceived competence: All aspects of competence scores of residents with additional training were significantly higher than those that had no additional specific training in BBN. Self-efficacy; T test =0.334 and *p* value of 0.004, JSPE scores T test =0.999 and *p* value of 0.018; Physician beliefs scores T test =2.00 and *p* value of 0.047.

Level of training and perceived competence: All aspects of competence scores of residents in part 2 of their studies were significantly higher than those in part 1 of their studies; self-efficacy T test =4.63 and *p* value 0.003; JSPE T test=4.26 and *p* value of 0.02 and Physicians belief scores T test =1.931and *p* value of 0.010.

IV. DISCUSSIONS

Perceived competence in this study on the three aspects of competence which asses aspects of competence in BBN, technical skills, correct attitudes and professionalism.

Self-efficacy; Residents' belief in his or her capacity to execute behaviours necessary to break bad news, was scored very highly, higher than other studies using the same scale. Hundley, G. (Hudley, 2008) found lower scores for oncologists in Uzbekistan, former Soviet Union republic. Similar findings Paulina et al. in Poland studying the main communication barriers in BBN, this finding can be explained by the use of self-rating scales. Use of Self rating questionaries and studies show that participants over rate themselves. Tongue et al. (Tongue, 2005) 75% of orthodpedic surgeons over rate the selves. This supported by the qualitative responses where only 20% participants said they were either good or very good. Alen and der Velden (2005) suggest that respondents intentionally alter their responses when taking self-assessment in order to appear 'normal'.

Empathy; the capacity to understand or feel what another person is experiencing from within their frame of reference, that is, the capacity to place oneself in another's position is the most robust measure of humanistic aspects of medical practice and competence in breaking bad news is not possible without it. The scores in this study were fairly low (90.2 highest; lowest 80.78) the normed value 115. Higher scores in a study by Hojat et al. in 2005, in the developed world, (Hojat M. M., 2005) JSPE scores were even better than the normed value 117.8. Similar findings in Nepal the score was 97.28 slightly higher than our study. (Krishna 2017) and S America (Luciana B, 2019) These findings of low empathy scores seems to characterise empathy scores in the developing world while the western developed countries have higher scores.

Physician beliefs: This is a measure of the importance of the psychosocial aspects in cancer care and the higher the score the higher the rejection of patients' psychosocial issues in healthcare. The scores range from 103.9 to 131.29 while normed value is 72 and these are very higher scores signifying

a more traditional biomedical model where patients psychosocial issues are none of the physicians issues.

Sociodemographic characteristics and perceived competence.

Additional training; significantly all aspects of competence in BBN. Similar findings in other studies; Luciana B et al. 2019 randomised control training medical students and residents study found that the improvement was mainly related to CS with regard to giving bad news and responding with empathy, Jenkins et al. showed significant improvement attitudes and beliefs toward psychosocial issues compared with controls (P =.002) Jenkins, 2002 Gorniewicz et al. (2017), who studied the effect of an intervention using a BBN training module that incorporated patients' story preferences. They found that participants improved at their highest levels of CS with regard to "attention to patient responses after breaking bad news" and "communication related to patient emotions."

Gender: The term gender is used in this study refer to attitudes, feelings and behaviours that are associated with a person's biological sex. Studies have suggested that gender significantly influences care however the evidence for gender stereotypes has been obtained through self-report empathy questionnaires which may be strongly biased by gender-relevant social expectations. In the current study gender did not significantly influence all aspects of competence. This is similar to other experimental studies where this differences between males and female is typically absent in relevant experimental tasks as shown by Rueckert et al. (2011) so while this evidence seems to reveal sex differences in both empathy and moral judgment, it stems from instruments likely to bias responses towards gender-role stereotypes (Derntl, 2010) and physiological measures (Bjorklund, 2003) Other previous studies like Rueckert (2011) have yielded mixed results in sex differences in empathy and this such differences are stronger when empathy is measured with self-report questionnaires.

Level of training: In this study part 2 residents were significantly better than part 1 in all aspects of competence suggesting that experience influences perceived competence. The current study findings may be explained in part by the psychological and social aspects of breaking bad news which improve with experience. Bad news like cancer diagnosis is associated with negative connotations which cause anxiety not only to the patient but to the doctors as reported by one of the residents 'One of them said '*It is imperative to realize the psychological torment on the patient, or the next of kin, if fear of demise is imminent. This same psychological torment is what we go through as medics, but as we specify, our job is our dedication, as suggested, training will be of paramount importance*'

Interpersonal skills improve with experience and this attribute is needed for effective exchange of information. Similar studies (Zielazny, 2016)

V. CONCLUSIONS

Overall, this study has conclusively found the resident doctors perceive themselves not competent in breaking bad news in all aspects of competence suggestive predominantly biomedical curriculum model.

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