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Samar A. Ahmed
Ain Shams University Faculty of Medicine, Forensic Medicine and Clinical Toxicology Department, Cairo, Egypt

Soha K. Ashry
Ain Shams University Faculty of Medicine, Forensic Medicine and Clinical Toxicology Department, Cairo, Egypt

Guy Widdershoven
Department of Humanities VU University, Amsterdam, Netherlands

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Effectiveness of Online Teaching for Development of Resident Beliefs and Understandings: A Study on Breaking Bad News to Patients

Samar A. Ahmed[a,*], Soha K. Ashry[a], Guy Widdershoven[b]

[a]*Ain Shams University Faculty of Medicine, Forensic Medicine and Clinical Toxicology Department, Cairo, Egypt*
[b]*Department of Humanities VU University, Amsterdam, The Netherlands*

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Abstract

Purpose: Testing the efficiency of online teaching in improving resident beliefs and understandings and self perception regarding breaking bad news to patients.
Method: A questionnaire sheet was administered to 50 new residents at Ainshams University teaching hospitals (age 24–26) who were in their first year training and to 50 senior residents (age 26–28) who had already received two years of training. Data was analyzed and further discussed in a focus group of eight participants. Participants attended an online video based training module on breaking bad news to patients and questionnaire was administered 6 months later and compared to the original results.
Results: The respondents were 60 males and 40 females. In general, the residents who answered the survey are aware of the ethical aspects of breaking bad news to patients, and report to behave in accordance with most of the principles described in the Rabow and MacPhee model. There appeared to be a significant difference in opinions and attitudes of junior and senior residents in specific issues e.g. time needed to prepare before delivering bad news, tendency to get frustrated if the patient decided to discontinue treatment or starts attacking and blaming a colleague and finally introducing themselves to the patient before delivering the news. Residents demonstrated a significant improvement in reported capacities when delivering bad news after going through an online training module. Most of the concepts, skills and beliefs were shifted except for areas that were affected by workload or cultural beliefs.
Discussion: The concepts, skills and beliefs of residents regarding delivering bad news to patients are affected by their progression into their clinical practice and by exposure to formal online training.

Keywords: Ethics; Communication skills; Bad news; Outcome assessment; Online teaching

1. Introduction

Breaking bad news to patients is one of the most difficult responsibilities in the practice of medicine. Although virtually all physicians in clinical practice encounter situations entailing bad news, medical school

*Correspondence to: Forensic Medicine Department, Faculty of Medicine, Ain shams University, Abbassia Square, Egypt.
Fax: +20 2 24848677.
E-mail address: drsamer_ahmed@med.asu.edu.eg (S.A. Ahmed).
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offers little formal training in how to discuss bad news with patients and their families.

There are many reasons why physicians have difficulty breaking bad news. A common concern is how the news will affect the patient, and this is often used to justify withholding bad news. Hippocrates (1923) advised "concealing most things from the patient while you are attending to him. Give necessary orders with cheerfulness and serenity…revealing nothing of the patient's future or present condition. For many patients…have taken a turn for the worse…by forecast of what is to come." Medical training has been focused on the skills in obtaining information rather than giving information to patients and families and helping them to cope with difficult information.[1]

Several professional groups have published consensus guidelines on how to discuss bad news. The Buckman protocol[2] and the Spikes six step model[3] have been developed by oncologists to be used with terminal cancer patients. The Rabow and Mc Phee ABCD model[4] present a stepwise approach to delivering bad news by physicians. This model has been validated and enhanced by several studies. e.g. Vandekeifet (2001).[5]

The clinical efficacy of many standard recommendations has not been empirically demonstrated.[6,7] Less than 25 percent of publications on breaking bad news are based on studies reporting original data, and those studies commonly have methodological limitations.

Ain Shams school of Medicine is one of the old schools in Cairo offering medical students an academic program that focuses on the enrichment of their medical knowledge and skills yet offers no communication skills training. Residents and practicing physicians working at the teaching hospital thus develop their own styles in communicating with patients.

This study thus aims at testing the efficiency of online teaching in improving resident beliefs and understandings and self-perception regarding breaking bad news to patients.

2. Methodology

2.1. Participants

A questionnaire sheet was administered to 50 new residents at Ainshams University teaching hospitals (age 24–26) who were in their first year training and to 50 senior residents (age 26–28) who had already received two years of training.

2.2. Material

The questionnaire was based on the Rabow and MacPhee (1999) model[4] for delivering bad news to patients. Questions were formulated using a Likert scale (1–5). The questions invited the respondents to report their actual behavior.

2.3. Procedure

Participants agreed to participate in the study by signing an informed consent. The protocol of work together with the consent form and questionnaire were handed over to the ethical committee of Ain shams University Faculty of medicine and received the IRB approval by the date 25/11/2009.

A focus group was held with residents to discuss results of the questionnaire and interpret them. The focus group was held in the resident office in the Demerdash Hospital within the internal medicine ward and lasted one hour. The group was attended by eight residents from the internal medicine department. The participants were of different training experience ranging from 1 to 3 years. Participants were two males and six females whose ages ranged between 26 and 28. All the participants graduated from Ain shams medical school and all had prior experience in delivering bad news to patients.

The focus group was conducted with a structured script. Participants were asked to write their responses before discussing them in order to minimize the social desirable trends in the responses. The session was audio recorded and subsequently transcribed.

An experimental online module covering the ethics of delivering bad news to patients was administered to both groups of residents. The module is a teaching module within the program for communication skills of Drexel University “DocCom”. The module is structured around videos that demonstrate effective delivery of bad news and a detailed instruction guide together with relevant reading materials. The modules also offer written guidelines and checklists to help residents in specific situations. Video based demonstrations are also interactive where students can select actively through the good and bad practices performed by the physician while delivering bad news to the patient. Videos also offered a description of patient views and physician views and perception of language used in breaking bad news. Residents had to watch videos where patients explained how they felt about language and attitudes of physicians while breaking bad news and then compare

them with physician views in an attempt to understand and relate to the discrepancy in perception of both parties of the communication. Each module tests understanding through a set of multiple-choice questions. Passing the module requires learners to achieve at least 70% of the total score.

Six months after the residents had passed the online module they were re-administered the questionnaire again.

Change in understanding and self reported beliefs were compared with the initial responses.

2.4. Analysis

Data from the questionnaire was coded and questions with negative implications were reverse coded. Cronbach's alpha was calculated for the responses to ensure internal consistency.

Student T test was calculated for the comparisons. The level of statistical significance was considered at $p < 0.05$. Data from the focus group was analyzed using thematic content analysis.[8]

3. Results and discussion

The respondents were 60 males and 40 females from different hospital departments as shown in Table 1.

The data extracted from the questionnaire is shown in Table 2.

3.1. Before residents received any formal training

3.1.1. Preparing to deliver bad news to a patient

Concerning the preparation for delivering bad news, the residents were in agreement with the steps highlighted in the Rabow and MacPhee model The only step they had little attention for was switching off their phones.

Table 1
The distribution of specialties within the tested specimen.

Department/specialty	Number of participants
ophthalmology	18
Audiology	2
Internal medicine	11
Toxicology	4
Pediatrics	12
Geriatrics	3
Dermatology	4
Surgery	16
ENT	7
Uro- surgery	2
Obstetrics and gynecology	13
Neurology	4
Chest	4
Total	100

When comparing these steps in senior and junior residents, it appeared that there was a significant decline in the tendency of the resident to prepare before giving bad news as they progressed into their training years.

The latter result is in agreement with Dosanjh et al. (2001)[9] who report that residents in their study defined the amount of time available for them to prepare themselves as one of the institutional barriers imposed on them In the focus group. This was also evident in the discussions in the focus group when residents were asked to discuss the fact that senior residents tend to prepare themselves less than junior residents, the issue of time pressure was confirmed:

> "Seniors usually have more responsibilities and are held more responsible before senior staff than juniors. It is hard to find time to prepare."

Yet, another possible explanation was also mentioned, namely that senior residents may be more used to providing bad news and thus may feel they need less time to prepare:

> "Senior residents have lived the experience many more times and tend to be more comfortable with it."

3.1.2. Delivering bad news

The residents in both groups were generally in agreement with the steps highlighted in the Rabow and MacPhee model. Subjects of both groups agreed on the importance of asking the patient what he knows before starting to deliver the bad news. This contradicts the finding of Mohanti and colleagues who in their concluded that less than 25 percent of the subjects had any understanding of the concept of palliative communication.[10]

A remarkable difference between junior and senior residents was that junior students did not seem to find it important to introduce themselves to the patient and senior residents did not find it important to touch the patient during the process.

In the focus group, participants were not surprised at the fact that junior residents believe that it is not important to introduce themselves before delivering bad news to patients.

> "The junior resident is the most available person on the ward and he is known to every one. It is highly unlikely that he gets to meet the patient for the first time when he is delivering bad news".

Yet, one participant related the fact that junior residents are not inclined to introduce themselves to the emotional aspects of breaking bad news:

> "It is shameful as it is that I have to admit failure in front of the patient. It is really not encouraging to have my name associated with such failure."

The fact that senior residents were less inclined to touch the patient while breaking bad news could be explained by the tendency of residents to distance themselves emotionally and physically to avoid manifestation of emotional pain.[9] This explanation was also mentioned in the focus group:

> "It is a matter of keeping the safe distance. You try not to get too attached to the patient while you are giving him the news for fear that your emotions will show and you will appear unprofessional."

Yet, in the focus group cultural aspects were also brought up as explanation for reluctance to touch the patient.

> "It is related to our culture and religious beliefs. Even if you want to communicate with the patient and touch him or her you are always afraid of how they would perceive it within the social context."

It seems that residents feel unsure about how to deal with emotions:

> "The more experienced you get the more afraid you are of being hurt within the line of duty. This is because we get to meet many people with different mentalities and ethical boundaries."

3.1.3. If the patient cries

The mean responses of the two groups demonstrated a tendency to behave professionally when the patient cried. Both groups tended to allow for patient silence and not urge him to talk; they were however inclined more or less to interrupt the tears. When comparing the reported behavior in both groups there seemed to be little difference except for the fact that senior residents were less inclined in comparison to junior residents to try to urge the patient to talk.

Participants of the focus group related the fact that residents tend to interrupt the patient's tears to their busy work schedule and – in the case of senior residents- to their extensive responsibilities.

> "If I let the patient cry and have to wait for him to get it all out, this will surely take valuable time that I could be using to treat another patient or tend to more urgent needs."

3.1.4. If the patient blames his physician

If the patient blamed another physician, both senior and junior residents agreed that they would defend their colleague. The senior group was significantly less likely to walk out of the room. The fact that junior residents would do this, could be explained by the finding that when physicians feel powerless, this may result in the physician limiting the relationship with the patient or the patient's family members to areas that they feel comfortable with Giris and Sanson-Fisher (1995).[11] A similar explanation is provided by the study of Dosanjh et al. in the year 2001: spending as little time as possible with angry or distraught patients' or family members' may possibly be a protection mechanism for residents.[9]

When this point was discussed in the focus group, participants stated that they could understand the reaction of junior residents:

> "Leaving the room is highly unprofessional, but it is sometimes the safest thing to do when there is nothing you can offer the patient."

The participants also questioned the motivation behind the responses of the senior residents:

> "Maybe seniors are more afraid of being trapped into unethical statements."

Although leaving the room is not in line with the standards, the participants in the focus group acknowledge that following the rules is not always easy, and may be problematic if it is done for external reasons (like not wanting to be seen as unethical).

3.1.5. The perception of what is appropriate in this context

The respondents tend to answer in congruency with the Rabow and MacPhee model, deeming it appropriate, for instance, to inform the relatives and to offer psychiatric counseling. An exception was the (light) preference of the junior group of residents to consider it appropriate to offer hope.

When comparing the two groups, the senior group showed a significantly larger insight into the appropriateness of informing the relatives. The senior residents also showed a (not significant) decline in considering it appropriate to lie to the patient and to offer the best line of treatment without consulting the patient. These results are consistent with the increase in level of exposure and awareness.

Table 2
Student *T* test for comparison of the mean responses of the junior and senior resident responses to the questionnaire.

Rabow and Mac Phee Guide line items		Junior group Mean and Standard deviation ($n = 50$)	Senior group Mean and Standard deviation ($n = 50$)	Mean and SD Before training ($n = 100$)	Mean and SD six months after training ($n = 100$)	Comparison of Junior and senior groups *P* value	Comparison before and after training *P* value
Before delivering the bad news	Taking time to revise the patient's data	3.56 ± 0.67	3.34 ± 0.84	3.45 ± 0.74	3.48 ± 0.66	0.05	0.76
	Arrange location	2.88 ± 0.99	2.68 ± 0.73	2.78 ± 0.84	2.9 ± 0.92	0.13	0.34
	Switch phone off	2.10 ± 1.06	1.90 ± 0.88	2 ± 0.95	2.11 ± 1.80	0.14	0.59
	Rehearse	3.04 ± 1.00	3.02 ± 0.73	3.03 ± 0.85	3.42 ± 0.82	0.4514	0.0011
	Prepare emotionally	2.70 ± 0.98	2.56 ± 0.85	2.630 ± 0.896	2.91 ± 0.73	0.2122	0.0001
When delivering the bad news	Consider how much the patients knows	3.2 ± 0.94	3.04 ± 0.85	3.12 ± 0.877	3.8 ± 0.42	0.1649	0.0001
	Find out how much the patients knows	3.02 ± 0.95	2.8 ± 0.96	2.91 ± 0.936	3.01 ± 0.72	0.1126	0.3981
	Speak frankly	3.16 ± 0.92	3.2 ± 0.86	3.18 ± 0.872	3.62 ± 0.73	0.4559	0.0001
	Speak compassionately	3.08 ± 0.89	3.06 ± 0 .77	3.07 ± 0.813	4.1 ± 0.9	0.4481	0.0001
	Give the patient choice on who he would like to be present with him	3.26 ± 0.8	3.08 ± 0.63	3.17 ± 0.7007	3.4 ± 0.6	0.1185	0.0135
	Introduce myself	2.46 ± 0.98	3.04 ± 0.72	2.75 ± 0.833	4.1 ± 0.89	0.0011	0.0001
	Give the patient an introductory sentence	3.16 ± 0.78	3.44 ± 0.54	3.3 ± 0.647	3.9 ± 0.4	0.0256	0.0001
	Make sure the patient is told all the medical details	2.96 ± 1.04	2.98 ± 0.91	2.97 ± 0.956	3.1 ± 0.83	0.4617	0.3056
	Ask the patient what he understood	2.72 ± 0.9	2.84 ± 0.73	2.78 ± 0.799	2.9 ± 0.74	0.2362	0.4634
	Touch the person	2.62 ± 0.8	2.28 ± 0.94	2.45 ± 0.853	2.46 ± 0.81	0.0339	0.9323
	Say a compassionate phrase	2.86 ± 1.1	2.98 ± 0.86	2.92 ± 0.96	3.3 ± 0.72	0.2769	0.0018
	Reassure the patient that I will be available	3.44 ± 0.78	3.34 ± 0.55	3.39 ± 0.65	3.42 ± 0.63	0.2403	0.741
	Summarize what I said	2.84 ± 0.97	2.92 ± 0.89	2.88 ± 0.911	2.9 ± 0.34	0.3495	0.8373
	Schedule a follow up visit	3.02 ± 0.93	3.12 ± 0.77	3.07 ± 0.83	3.7 ± 0.45	0.2845	0.0001
If the patient cries	Allow for silence	3.08 ± 0.87	2.96 ± 0.87	3.02 ± 0.85	3.3 ± 0.67	0.2539	0.0105
	Urge him to talk	2.33 ± 0.98	1.92 ± 0.8	2.125 ± 0.87	2.1 ± 0.78	0.0122	0.831

	Interrupt his tears	2.1 ± 0.83	2.28 ± 0.87	2.19 ± 0.833	2 ± 0.32	0.1698	0.0345
	Sometimes cry	1.6 ± 1	1.42 ± 0.98	1.51 ± 0.97	1.2 ± 0.65	0.1926	0.0086
If the patient blames his physician	Defend my colleague	3.18 ± 0.86	2.96 ± 0.8	3.07 ± 0.813	2.9 ± 0.97	0.0508	0.1808
	Criticize my colleague	1.44 ± 0.54	1.4 ± 0.57	1.42 ± 0.54	1.1 ± 0.01	0.3547	0.0001
	Walk Out of the room	2.47 ± 0.84	1.64 ± 0.71	2.055 ± 0.76	1.9 ± 0.61	0.0000	0.1132
	Express compassion but say nothing	2.31 ± 1.03	2.3 ± 0.9	2.305 ± 0.946	2.9 ± 0.72	0.5000	0.0001
I believe it is appropriate to	Offer hope	2.63 ± 1	2.46 ± 1	2.545 ± 0.98	3.1 ± 0.91	0.1941	0.0001
	Lie	2.00 ± 0.97	1.70 ± 0.83	1.85 ± 0.882	1.2 ± 0.77	0.0731	0.0001
	Inform the relatives	2.80 ± 0.96	3.24 ± 0.76	3.02 ± 0.843	3.2 ± 0.62	0.0101	0.0869
	Choose the best line without offering alternatives	2.35 ± 0.82	2.08 ± 0.72	2.215 ± 0.755	2 ± 0.51	0.0515	0.0192
	Offer Psychiatric counseling	3.04 ± 0.92	2.84 ± 0.90	2.94 ± 0.892	3.2 ± 0.72	0.1535	0.0244
If the patient decides to discontinue treatment	Offer alternative ttt	3.26 ± 0.91	3.46 ± 0.50	3.36 ± 0.691	3.81 ± 0.67	0.0880	0.0001
	Let him discontinue TTT	2.00 ± 0.73	2.12 ± 0.62	2.06 ± 0.66	2.1 ± 0.52	0.2055	0.635
	Get frustrated	1.71 ± 0.78	1.92 ± 0.72	1.815 ± 0.74	1.72 ± 0.54	0.0881	0.2989
	Explain importance of treatment and offer alternatives	3.56 ± 0.64	3.48 ± 0.67	3.52 ± 0.64	3.91 ± 0.56	0.2712	0.0001
	Try to understand the psychological state and offer help	3.41 ± 0.49	3.34 ± 0.68	3.375 ± 0.57	3.82 ± 0.53	0.2610	0.0001

3.1.6. If the patient decides to discontinue treatment

Both seniors and juniors agreed that they would offer alternative treatment, discuss the importance of treatment and that they would try to understand the psychological state of the patient. Senior residents' mean response was significantly higher than that of junior residents when asked about offering alternative treatment. This could be attributed to the fact that by reaching their senior residency year they are more knowledgeable regarding the possible alternatives to be offered.

Both groups agreed that they would not let the patient discontinue the treatment. This seems in contradiction with the findings in the study conducted by Dosanjh et al. (2001),[9] showing that residents agreed to the importance of honoring the patient's or family's choice of treatment. In that study residents also indicated that they found honoring the patient's wishes troublesome and sometimes complicated. This seems at odds with our findings which indicate that residents are not frustrated when confronted with a patient's wish to discontinue treatment. Yet, our study also shows that senior residents are less outspoken in this regard than junior residents. This unexpected difference was discussed in the focus group. Participants stated as possible explanation:

> "For seniors it becomes a matter of incompetency, having a patient simply give up just gives you the feeling that you have totally failed".

This result is in agreement to the findings in Saviani-Zeoti and Petean (2007). The subjects in this study were experienced and licensed physicians who agreed that they did experience frustration when encountered by such a situation. This could be explained by the fact that professionals may feel guilty for feeling anger, rejection, and aggression, and therefore develop a defense mechanism that is strong enough to survive the daily routine with their own worries, suffering, and the remembrance of their own mortality.[12]

This could be further explained by the fact that when physicians are faced with a situation that they cannot remedy, they often feel ineffective and powerless.[11] This could not only relevant for junior residents, when confronted with a patient blaming his physician (see above), but also for senior residents, when confronted with patients who decide to discontinue treatment. Feelings of frustration and powerlessness are not in agreement with the preferred way of dealing with patients while breaking bad news; yet they should be taken seriously. Simply dismissing such emotions as inadequate might result in repression of feelings or distancing oneself from the patient. An approach which enables professionals to discuss emotions related to difficult moral issues in healthcare, like moral deliberation, could be a way to teach residents to deal with such feelings in an appropriate way.[13]

3.2. After going through the breaking bad news module

3.2.1. Preparing to deliver bad news to a patient

There was a significantly higher tendency of residents to rehearse and to prepare themselves emotionally after they had received the online training as compared to their practice before receiving the training. This might be an indication that residents became more aware of the importance of these two steps after receiving the training. This highlights the importance of formal education for residents on matters of communication skills.

3.2.2. Delivering bad news

After training residents reported significant improvement of many aspects in delivering bad news to patients e.g. considering how much the patient knows, speaking frankly and compassionately, giving the patient choice on who will be present with him, introducing themselves and giving introductory sentences and a compassionate phrase while delivering the news. All these actions were improved dramatically in comparison to the residents' capacities before the training. This is in agreement with many studies eg. Silverman (2009) who decided that clinical communication should be included in mainstream teaching for physicians.[14]

This was not in agreement with Suchman in 2003 who concluded that the physician's capacity for clinical communication reflects his or her personal qualities and cannot be taught.[15]

Some functions showed no significant improvement e.g. the fact that residents should find out how much the patient already knows before delivering the news, checking that all medical details have been given to the patient, asking the patient to rephrase what they understood and finally the act of touching the patient. The capacity of residents to perform these actions remained non-significantly improved by the training. This coincides with other studies performed that highlight the value of adaptation of guidelines and teaching content to suit values and religious limitations of different places.[16,17]

3.2.3. If the patient cries

All skills of residents reportedly improved when dealing with patient tears except for the fact that they still interrupted the patient tears. This action remained requiring correction and might be attributed to the working conditions and the beliefs of residents mentioned before starting the training. It is also a fact that residents develop an attitude to protect themselves from losing full control when delivering bad news.[16]

3.2.4. If the patient blames his physician

Residents reported a significant increase in tendency to act responsible in these situations and offer compassion but say nothing. They also demonstrated a significant decline in tendency to criticize their colleagues. This was in demonstration of significant improvement after training. There are concepts that remained without significant change like the tendency of a resident to leave the room when cornered in this kind of situation and also their tendency to defend their colleagues.

3.2.5. The perception of what is appropriate in this context

A considerable shift in the perception was noted in all areas except for the perception of residents that it was acceptable to inform the relatives of the patient's condition. This indicates a need for further ethics training for residents in areas related to confidentiality.

3.2.6. If the patient decides to discontinue treatment

After being subjected to the online training it was evident that residents demonstrated improved functioning when offering alternative treatment and discussing importance of treatment and also in referring for psychological support.

Some areas remained without significant improvement like the tendency of residents to get frustrated and the tendency to let patient discontinue treatment. Resident frustration when encountered with a situation that demonstrates failure is a common effect that most probably needs more self training in addition to the formal education. Friedrichsen M[1], Milberg A. in 2006 defined frustration of physicians as a barrier against offering appropriate empathy towards patients.[18]

4. Conclusion

The concepts, skills and beliefs of residents regarding delivering bad news to patients are affected by their progression into their clinical practice and by exposure to formal online training.

In general, the residents who answered the survey are aware of the ethical aspects of breaking bad news to patients, and report to behave in accordance with the principles described in the Rabow and MacPhee model. This is positive, given the long tradition of not telling the truth in medicine in general, and amongst physicians in non-Western countries in particular. Yet, some critical remarks can be made regarding the current situation in residents in Ain Shams university hospital. A first issue to be addressed is the lack of time of residents. This may count for a relatively short preparation in senior residents, and also for inadequate interventions, such as interruption of crying of the patient. In the second place, some of the answers may be influenced by social desirability. Especially senior residents sometimes seem to give answers that are expected from them, without saying what they really think and feel. This was not only our impression as researchers, it was also mentioned by participants in the focus group. In the third place, residents seem to have some difficulty in dealing with emotional issues. For junior residents, this was linked to the situation of the patient blaming his physician, for the senior residents a growth in feeling frustrated could be seen if the patient decided to discontinue treatment.

Using online video-based training programs accessed by residents at their own pace is effective in developing the beliefs and understandings of the residents.

5. Study limitations

No control group was selected in the methodology and an experimental study would have verified results in a more evident way. A follow up study using a control group is recommended.

Online modules of the communication skills program did not offer the opportunity for students to deliver bad nes themselves but rather spot good and bad behaviour and thus very little deductions could be made regarding the skills acquired by the participants.

6. Recommendations

Undergraduate and postgraduate learning and training curricula in Ain Shams medical school are effective in teaching the basic principles of breaking bad news, and should therefore be continued. They might be further improved by focusing on the students' internal motivation to follow the principles. More attention is needed for practical issues around communication, especially work load and time pressure. More attention should also be paid to emotional issues related to

dealing with breaking bad news, both in the curriculum and through stimulating reflection in practice, for instance by using moral case deliberation. Introducing video based trainings to help residents develop their educational needs in the area of Delivering bad news is important to support that resident capacity to communicate effectively with patients.

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