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WEB PAPER

The effectiveness of a vignette approach to teaching suicide risk factors: An Omani perspective

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Abstract

This within subjects study assessed the effectiveness of a previously published vignettes approach to the teaching of suicide risk factors in a cohort of students in an Omani medical school. As part of their learning, students were asked to rank four case descriptions for suicide risk, after which there was a specific discussion of the cases and of suicide risk assessment. A previous study had shown significant and dramatic improvement in students from a US university. However the students in this study showed a very different profile of learning about suicide risk from this activity. They had particular difficulty in weighing risk and protective factors when determining relative risk. The impact of cultural and religious context on the effectiveness of this learning activity is discussed. It is clear that there is a continuing need for evaluation and research as to the efficacy of developments in medical education as they are applied in international medical schools with students of different cultural and religious backgrounds.

Introduction

The assessment of suicide risk is important for all physicians and physicians in training. Although risk prediction is inherently probabilistic and never certain (Roberts & Dyer 2004), it has been shown that mortality due to suicide is decreased with an improved assessment of suicidal risk behavior (Bongar et al. 1998; Shneidman 2001). Mental Health professionals have reported that difficulties in assessing risk arise from inadequate knowledge of risk factors and inadequate interpersonal skills. Additionally some physicians identify inadequate applied risk assessment skills as contributing to their personal distress following a patient suicide (Pilkington & Etkin 2003).

It is estimated that during the clinical training and internship years, one in four medical students will have personal involvement in seeing a patient who goes on to attempt or complete suicide, and this rate is much higher in students taking psychiatry residencies (Fang et al. 2007). It is therefore essential that medical students receive both education and practice at identifying suicidal risk behavior. The importance of such training has been repeatedly highlighted (Kleespies et al. 1999; Appleby et al. 2000). Adequate training should enable medical students to have both skills and confidence in this complex aspect of human behavior (Kemshall & Pritchard 1996). The stigmatization of suicide is well-documented and exists in all cultures. There is also variability between cultures and societies in the level of taboo (Cauce et al. 2002). Where there is reluctance to discuss suicidal thought and behavior there will be an increasing need for accurate risk assessment. Thus an appreciation of the cultural context of suicidal risk and

Practice points

- When teaching about relative suicide risk students should be encouraged to be reflexive and consider the contribution that their own background has to their assessment of relative risk.
- In countries and cultures where there is a particularly strong taboo concerning the topic of suicide medical educators should pay particular attention to enabling their students to better understand the relative contributions of risk and protective factors.
- When a published educational tool or technique is applied in the medical education of students from a different cultural or religious background it is essential to validate its efficacy through pedagogic research.

behavior is essential for culturally appropriate interventions (Goldsmith et al. 2002).

While it is well-established that religious beliefs are protective against suicide (Stalk 1983), there has been much comment and some controversy over comparative suicide rates in Muslims and non-Muslims. In a survey of suicide behavior conducted in Dubai, Koronfel (2002) found that there were no significant differences in suicide completion between Muslims and non-Muslims in the period 1992–2000.

It is clear that in Islam, life is considered a sacred trust from God and the individual does not have the right to end it. In most Islamic states suicide and attempted suicide are criminal offences. The topic of suicide is therefore infrequently

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discussed leading to unclear, but hostile attitudes to suicide in many Muslim communities. Lester and Akande (1994) showed that amongst college students, Muslim students had more negative attitudes towards suicide and their knowledge of the topic was less accurate.

The academic community within Arab psychiatry has been aware of, and has been competently dealing with, the issue of identifying suicide risk in society (Abou-Saleh 1992; Khair & Al Mdefer 2005). A central part of improving suicide rates will be training doctors who are proficient at culturally appropriate suicide risk assessment. This study is concerned with identifying methods of good practice in helping Omani medical students to most effectively learn how to recognize and assess suicide risk.

In addition to the standard didactic lecture approach to teaching the most common risk factors for suicide, there are a number of other commonly used methods. The most commonly employed mechanism for helping students to learn suicide risk factors is the SAD PERSONS mnemonic (Patterson et al. 1983). Case vignettes have also been used to help students apply their knowledge to patient-like scenarios. Several studies on this approach have shown that the vignette approach confers significant advantages to students' risk assessment behavior. Juhnke (1994) showed that a video vignette approach also conferred advantages of identifying suicidal risk behavior over more traditional lecture-based coverage of the material.

Oman is traditionally an oral learning culture in which storytelling has been shown to be an effective teaching tool (Norrish, 2008). A vignettes/scenario-based approach was therefore used here. For the purposes of cultural comparison the same vignettes as used in Madson & Vas (2003) were incorporated into this study. The relationship between culture and suicidal behavior is a complex one. Therefore, as Colucci and Martin (2007, p 234) have suggested, qualitative methods were also included to enable the study of suicide behavior "*in a deeper way*".

Methods

A repeated-measures design was used to look at students' suicide risk assessment rankings of four small vignettes. Rankings were made before an in-class discussion of the cases and rankings were then made several weeks later, as part of the end of course assessment. The dependent variables were the accuracy of rankings and students' ability to identify the most important risk factors for suicide. In addition, students' subjective participation experience was considered though a brief survey. In order to provide further depth to the data thematic content analysis was carried out on the reasons that students gave for their rankings in the final assessment.

Participants

Eighty-eight students took part in this activity as part of their Behavioral Science and Psychopathology course. This is a mandatory course in the 4th year of these students' 7-year long medical degree program. This program is taught entirely in the English language and graduates students with a

US-style medical degree as a result of a partnership with a well-established US Medical School. The average age was 23.3 years. There were 12 males and 65 females. The predominant nationality was Omani (with 8 expatriates). The predominate predominant religion of the participants was Islam (with >95% adherence).

These students are demographically similar to the sample used by Madson & Vas (2003). This is particularly true in relation to their age, gender composition, and educational background (currently in the 4th year of English medium higher education). Clearly, however, there are significant differences in the cultural and religious background of the two cohorts of students.

Materials and procedure

To enable comparison the four case scenarios from Madson and Vas (2003) and the same subjective experience questions were used. In addition, more detailed narrative explanations of the students' reasons for their rankings were obtained from students by way of a short answer question in their final examination.

Initial administration of the case scenarios was done during a traditional 2-hour lecture class. At the beginning of the class, students were asked to read through the four scenarios and discuss them with their peers. Each student was asked to "*Read each of the scenarios below and indicate which person you think is **at greatest risk for suicide**. Rank the descriptions with **1** being the person at the greatest risk and **4** being the person at the least risk.*" These rankings were collected and considered the initial sample in the within groups analysis.

Students spent approximately 15 min on this task and then the cases and their rankings were collected in. Immediately after this each of the scenarios was discussed in detail by the lecturer. This included identification of the risk and protective factors in each scenario as well as the "best" choice of ranking for the four cases. This activity lasted approximately 1 hour and provided the introduction to the topic of suicide. Then there followed a 1-hour lecture on this topic. In the week after this activity students were asked to complete an online survey on their subjective experience of this learning activity.

During the final examination for the course (5 weeks after the activity) the cases were included in a short answer question. Students were again asked to rank them according to risk of suicide. These rankings were considered as the final post-test sample in the within groups analysis. Students were also asked to provide a written explanation of the reasons for their ranking (200–400 words), worth five marks in their final assessment. These were then analyzed and coded using thematic content analysis. The derivation of theme categories utilized what is already known about both risk and protective factors in suicidal behavior assessment. In total 13 predefined themes were identified from the four case scenarios. Each of these themes relates to either a risk factor or a protective factor that was identified by the original case authors (Madson and Vas 2003). The students' short answers were then coded according to whether any of these themes were correctly

identified. Score counts for these themes, and any emerging themes, were then tabulated for all the students.

The originators of these case scenarios (Madson and Vas 2003) identified the order of the ranking for these scenarios as Maria being at highest risk, followed by Alex and then Amy, with Joe having the lowest risk of suicide. To summarize their reasons: Maria is at highest risk because she has previous suicidal behavior and she is currently experiencing the break-up of a long-term serious relationship. Alex is the next highest rank because he has the presence of serious psychosocial stressors, access to a lethal weapon, he abuses alcohol, and has recently started giving away favored possessions (which may be a sign of an impending suicidal plan). In neither of these cases there are significant protective factors. Amy has many of the symptoms of a major depressive episode and she has limited social support. However, as a protective influence she is receiving mental health treatment. Although Joe expresses his suicidal ideation there is no evidence of intent and he has strong family ties and support as protective factors. This final examination also included a post-test MCQ item which asked students to identify the biggest single risk factor for completed suicide. This item was only administered post-test and so cannot contribute to a discussion of the effectiveness of this specific learning activity. However it does give a benchmark for assessing the post-test understanding of risk and to enable comparison with the student performance on a similar post-test MCQ item in the previous study (Madson and Vas, 2003).

Results and findings

The responses for subjective experience of the learning activity showed positive attitudes towards both the activity itself and its potential usefulness (Table 1).

The initial pretest rankings were very poor, with no significant differences from chance (Figure 1a). Only 30.4% of students correctly identified Maria as being at highest risk and the initial mode average rank for each case was incorrect for all of the scenarios. Alex is ranked as highest risk and Amy is considered lowest risk. The most noticeable deviation from

chance responding is that very few people consider Joe to be of low risk.

These findings are broadly in agreement with the initial pretest findings from Madson and Vas (2003) in a US cohort.

The post-test measures (Figure 1b) show a significant improvement in ranking for the highest risk case (Maria) in the post-test group, from 31.9% up to 62.3% (Fisher's exact test $p < 0.01$). However, this improvement is less marked than in the published data (up to 62% compared to 95% in the previous study).

Madson and Vas (2003) report improvements across all of the scenarios; however, this is not seen in the current data. Although there is significant improvement for the highest risk case (Maria), the 2nd ranking case (Alex) is only correctly identified by 30% of students in the post-test measure (this is compared to 93% in the published data).

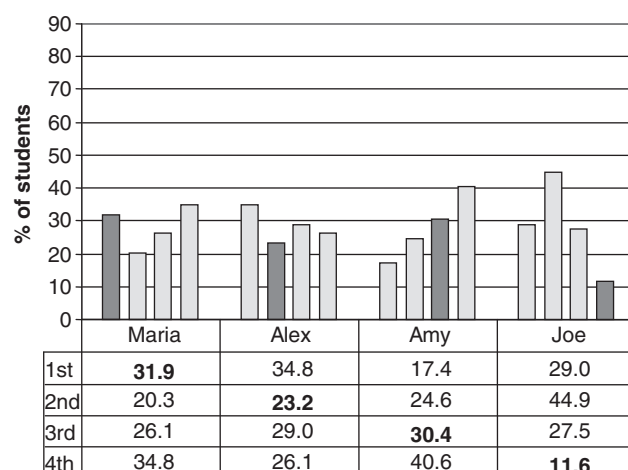
In the previously published data there was more equivocal data for the 3rd and 4th place post-test rankings (62% and 61% for Amy and Joe, respectively); however, they had improved significantly from the pretest condition. In the current study there was no improvement from the pretest condition for these cases, with correct post-test frequencies at a chance responding levels, 22% for both Amy and Joe.

On the post-test MCQ item from the final examination, students were able to identify the single most important factor

Table 1. Students' subjective experience rating of the exercise.

1 (not at all enjoyable) to 7 (very enjoyable)	Mean (median)
How much did you learn about issues related to suicide as a result of this exercise?	4.96 (5)
How enjoyable was this exercise?	5.12 (5)
This exercise should be used again in the future.	5.76 (6)
How useful was this exercise in prompting you to think about issues related to suicide?	5.80 (6)
I learned more about issues related to suicide than if I had not participated in the exercise.	5.08 (5)
This exercise was a waste of my time.	1.60 (2)
Participating in the exercise increased my understanding of issues related to suicide	5.96 (6)

(a) Initial



(b) Final

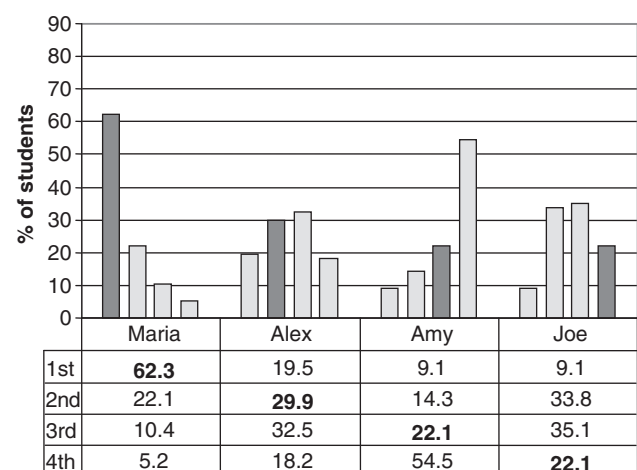


Figure 1. Initial (a) and final (b) rankings. Percentage of students choosing each ranking. The correct ranking is shown in bold.

in suicide risk assessment, with 93.7% of students correctly identifying previous suicide attempt.

Thematic content analysis

A thematic content analysis was carried out on each student's short answer explanation of their ranking. The percentage of students who correctly identified the predefined risk and protective factors for the four scenarios can be seen in Table 2. Additional emerging content themes were also identified and tabulated for all of the answers. These emerging content themes were mostly for coding common errors or incorrect inferences from the cases. In addition to these established factors there were several common thematic additions and errors. For example, more than one-fifth of the students specifically identified Alex's giving away of his favorite gun as a good protective sign, demonstrating his "*generous nature*". This is similar to the number of students who identified this same action as a risk factor (*recent giving away of possessions*). Twenty-four percent of students incorrectly considered Joe's suicidal ideation to be either a specific suicidal plan or an actual attempt.

From this content analysis it is clear that some of the themes were very well-understood and identified by the students, such as the importance of Maria's previous possible suicide attempt (92%) and the recent break up of her relationship (76%). However it is also clear that there were significant omissions of important risk and protective factors. For example, less than half of the students recognized the importance of family support as a protective factor for Joe (45%). However, a large proportion of the students did recognize his social stressors (79%) and suicidal ideation (76%). This imbalance in the recognition of risk and protective factors may account for Joe's elevated ranking.

Alex is generally under-ranked in this study with only 30% assessing his rank correctly and 51% giving him a lower rank. This pattern can also be seen in the thematic content analysis

Table 2. Frequencies of established factors in the thematic content analysis.

	Percentage of students correctly identifying the factor
Maria (<i>rank</i> = 1)	
Previous suicide attempt	92
Break-up of a long-term relationship	76
Alex (<i>rank</i> = 2)	
Substance abuse	28
Access to firearms	35
Recent giving away of possessions	25
Divorced (3 times)	71
Limited social support	29
Amy (<i>rank</i> = 3)	
Depressed	34
Ostracized as a result of lesbianism	64
Receiving treatment	73
Joe (<i>rank</i> = 4)	
Loss of job	79
Suicidal Ideation	76*
Benefits from family/social support	45

Note: *All of the students identified suicidal ideation as a factor, but 24% of them made additional errors in relation to this SI, such as it being a "*suicidal attempt*" or "*specific suicidal plan*".

with many of Alex's risk factors going unrecognized, for example more than two-thirds of the students either omitted or incorrectly identified four of his risk factors (substance abuse, access to firearms, the giving away of possessions, and limited social support). These omissions will have contributed to his lowered ranking.

Discussion

This learning activity led to a significant improvement in students' ability to recognize the individual at most risk of suicide. There was also overwhelming subjective student support for the usefulness and effectiveness of this learning exercise. However, the students in this study were less competent than the students in the original study at assessing relative risk when there is a more complex pattern of risk and protective factors.

As already noted there are several differences between the rankings made by the students in this study and those in the previous literature. Using an identical paradigm Madson and Vas (2003) found that this activity led to significant improvements across all of the scenarios. It is clear that the beneficial effects of this teaching tool are not as strong or as wide as in the original study. There are many possible explanations for the poorer performance on this task, ranging from extrinsic practical issues (such as the quality of teaching or the time that elapsed between pre- and post-test measures) through to intrinsic issues relating to the particular sample in this study. It should be noted that neither in this study nor in the previous study were students primed to expect the post-test inclusion of the case scenarios in their final assessment. The time period between the learning exercise and the post-test evaluation was also similar (a few weeks). While there is no objective measure of the quality of the instruction that students received about suicidal behavior assessment, it is unlikely that there were significant deficiencies in the present study as they would have been revealed by their final assessment (which included the post-test MCQ on risk factors). Therefore, it is not simply that these students did not learn about risk factors and protective factors as well as the students in the original study. Their learning is demonstrated by the very high scores on questions asking students to identify risk factors on the final examination (a similar score to the same question in the original study). Thus it seems that the differences do not lie in the post-test ability of students to identify risk factors but rather the differences are in their ability to assess the relative contributions of these risk factors to the assessment of suicidal risk behavior.

In trying to uncover the reasons for these differences, the thematic content analysis provides a useful insight. There are two general themes that can help to explain these differences:

- an overvaluation of suicidal ideation, possibly as a result of cultural and religious factors and
- less than optimal identification and recognition of the importance of the protective factors.

There is a relationship between religiosity and the frequency of suicidal ideation, with people from more religious cultures as well as more individually religious people reporting less

suicidal ideation (Nisbet et al. 2000). Eskin (2003) also showed that there were differences between Turkish students and similar students from Sweden in how seriously suicidal ideation should be taken. The Muslim-background Turkish students believed that people who express suicidal ideation were more likely to be active in planning suicidal behavior. This overvaluation of suicidal ideation as a result of cultural or religious background is likely to be moderated by negative attitudes towards suicide (Eshun 2003). As noted earlier such attitudes are commonly reported in the Arab Muslim world (Lester and Akande 1994). On this basis it is likely that the cultural background of these students will make a difference to their assessment of relative importance and their recognition of risk and protective factors.

Both of these themes can be seen when the content analysis for the case of "Joe" is considered. The explanatory power of the "Joe" case can be seen clearly when all the data for Joe are removed from the analysis. The post-test rankings rise from 22.0% correct for Amy in the 4-way ranking to 49.0% correct in the 3-way ranking, a rise much greater than expected from the reduction in ranking positions. Another way of expressing this is that there is a strong reluctance to lower Joe's ranking in the light of protective factors. Only 11% identified Joe as lowest risk in the initial condition. Following a detailed explanation of the role of protective factors and the normalcy of suicidal ideation in the population, the improvement in the post-test condition is only to 22%. The thematic content analysis helps to elucidate some of the reasons for this reluctance to lowest Joe's ranking, for example, 9% of the students overcategorized Joe's thoughts as a specific suicidal plan (similar to the Turkish students in Eskin 2003) and more than half of the student failed to recognize the benefits conferred to Joe from family and social support. This is in contrast to Amy, for whom social support was not only recognized but considered vital in her ranking position. Certainly suicidal ideation confers additional risk in an assessment of suicidal behavior; however, this should be weighed against the prevalence of similar thought in non-suicidal individuals and the other risk and protective factors that are present in the case. In their assessment of Joe, the students in this study have overestimated his risk because of a distorted bias towards suicidal ideation as a significant risk factor over his protective factors.

The cultural taboo concerning suicidal behavior may cause an underreporting of suicidal ideation (Morrison and Downey 2000) or a reluctance to discuss it openly (Khokher and Khan 2005). This 'hidden ideation' is a serious issue which has also been shown in Arab students. A comparison between American and Kuwaiti students (Lester and Abdel Khalek 1998) showed that although there was less reported suicidal ideation in the Kuwaiti students there were no differences in the numbers of suicidal threats or attempts made by these students.

In the light of this it might be appropriate to suggest a final explanation of the findings. Maybe the students are correct! Maybe, in their cultural setting, the expression of suicidal ideation should be given an elevated weighing in the suicidal risk assessment, since such expression is less common. This would be in line with recommendations that in countries and cultures that differ substantially from the westernized world,

where most of the research originates, there are likely to be large differences in both the risk and the protective factors that are associated with suicidal behavior (Phillips 2004; Vijayakumar 2004; Vijayakumar et al. 2005). More detailed ethnocultural research is still needed to confirm this assertion and to identify any changes in the relative weighing of risk and protective factors.

Conclusions

Using a vignette approach to supplement the teaching of suicide and suicide risk was considered by the students who took part to be an enjoyable and educationally beneficial activity. Following this activity, students had a better understanding of suicide risk factors and were more readily able to identify the case with the highest risk of suicide. However, the activity also revealed that the students in this study had difficulty in weighing the relative risk and protective factors of the potential suicide cases. The religious and situational context (Islam and Oman) is thought to have contributed to an overvaluation of suicidal ideation and less than optimal identification and recognition of the importance of the protective factors. Therefore it is essential that cultural and religious factors are considered and discussed during the learning of relative suicidal risk assessment.

As medical educators it is insufficient, and perhaps negligent, for us to end with a conclusion that the reason for the lack of improvement in relative suicidal risk assessment in the students in this cohort is their religious and cultural background, which positively dissuades discussion of suicide. Our duty is to educate, and so the question from the introduction remains: How best can we identify methods of good practice in helping Omani (or any other) medical students to most effectively learn how to recognize and assess suicide risk? It is clear that while the learning tool described by Madson and Vas (2003) worked well for the students in their study, the same tool is insufficient in this new setting and needs to be supplemented with additional attention on cultural differences in the interpretation of relative suicide risk assessment.

"It is very important that researchers in other countries replicate results reported elsewhere. It should not be assumed that, for example, results found in research on suicidal behavior in Western nations should automatically apply in Arab or Islamic countries." (Lester 2006, p 92).

This not only relates to clinical aspects of suicidal behavior but also to research in medical education. As such developments are applied in international medical schools, there needs to be continuing evaluation and research as to their efficacy for students with different cultural and religious backgrounds.

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Notes on contributor

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