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Provision and evaluation of a suicide prevention and management programme by frontline nurses in Hong Kong

Key Messages

1. An education programme to enhance the knowledge, attitudes and competence of nurses in patient suicide prevention in general hospitals was evaluated. There were no significant differences between the study and control groups for any of the outcome measures.
2. Nursing manpower, practical guidelines, interdisciplinary collaboration and physical structure in the ward, which can prevent nurses from carrying out their roles and responsibilities, need to be addressed.
3. Administrators have to bring about changes in nurses' existing knowledge, skills, and attitudes.
4. A continuous cycle of education is needed for new skills and knowledge to be internalised. Ongoing evaluation of the programme could facilitate improvements.

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Introduction

Health care professionals should increase awareness about patient suicides in hospitals. A retrospective study in Hong Kong from 2000 to 2002 reported 166 suicidal attempts in 26 public hospitals, in which 34 patients died.[1] Frontline nurses play a crucial role in suicide prevention and management; it is challenging for them to provide care for patients with suicidal ideation or after suicidal attempts. Nurses may feel frustrated, inadequate, and unsure whenever they fail to help these patients.[2] In England, education for nurses achieved positive results.[3] It is anticipated that an education programme can also enhance local nurses' knowledge, attitude, and competence about suicide prevention and management.

Aims and objectives

1. To evaluate an education programme for frontline nurses on patient suicide prevention and management.
2. To evaluate the effects of the education programme on nurses' knowledge, attitude, and competence for dealing with patients (who have attempted suicide or have suicidal ideation) and their family members.
3. To examine the strengths and weaknesses of the programme from the participants' perspectives.
4. To enhance nurses' knowledge and competence related to suicide prevention and management.

Methods

Study design

The study was conducted in two general hospitals from December 2004 to June 2006. We used an evaluative design that incorporated quantitative and qualitative methods to assess outcomes and processes. The content of the education programme was based on learning needs assessment and literature review.[3,4] The programme consisted of 8.5 hours of learning activity. Teaching and learning approaches were developed based on principles of reflective learning.[5]

Sample size

A total of 110 registered nurses from medical and surgical units were randomly assigned to the study (n=54) and control (n=56) groups. Their demographics are presented in Table 1. There were no dropouts from the study. A purposive sample was recruited for the focus group interviews: the process evaluation interviews (three focus groups with 24 participants) and the outcome evaluation interviews (three focus groups with 18 participants).

Outcome measures

Participants in both groups were assessed before (pre-test) and immediately (post-test 1), 3 months (post-test 2), 6 months (post-test 3) after intervention, using four instruments: the Suicide Opinion Questionnaire (SOQ), the test on knowledge of management of suicide, the nursing competency in suicidal prevention and management, and the nurses' stress and coping in caring for suicidal patients.

Table 1. Demographics of the participants

Demographics	Study group (n=54)	Control group (n=56)	P value
	No. (%) of participants		
Gender			χ^2=1.007, P=0.316
Male	6 (11.1)	10 (17.9)	
Female	48 (88.9)	46 (82.1)	
Age range (years)			χ^2=4.014, P=0.134
21-30	17 (31.5)	27 (48.2)	
31-40	28 (51.9)	19 (33.9)	
41-60	9 (16.7)	10 (17.9)	
Hospital			χ^2=0.00, P=1.00
Hospital A	27 (50.0)	28 (50.0)	
Hospital B	27 (50.0)	28 (50.0)	
Clinical specialty			χ^2=0.01, P=0.919
Medical	40 (74.10)	41 (73.20)	
Surgical	14 (25.90)	15 (26.80)	
Participation in any continuing education related to suicide prevention in past 2 years			χ^2=0.46, P=0.497
Yes	7 (13.0)	5 (8.90)	
No	47 (87.0)	51 (91.1)	
	Mean±SD (range)		
Years of experience	10.03±6.91 (0.25-28)	9.07±6.86 (0.25-29)	*t*=0.731, P=0.466, df=108
No. of suicidal patients cared in past 12 months	3.00±4.11 (0-20)	2.79±4.67 (0-30)	*t*=0.255, P=0.799, df=108
Duration (hours) of taking care of suicidal patients in past 12 months	16.42±32.79 (0-184)	24.22±49.72 (0-240)	*t*=-0.968, P=0.335, df=108

Focus group interviews

Process evaluation interviews were conducted immediately after the programme to identify its strengths and limitations from the perspectives of the participants. Outcome evaluation interviews were conducted 6 months after the programme to assess the participants' competence in caring for patients with suicidal intent, and to identify factors affecting the use of such knowledge in practice.

Results

Outcome measures

Table 2 shows the mean and standard deviation (SD) of all outcome measures for the two groups. Table 3 compares the four outcome measures between the two groups. There was no significant difference between the two groups at baseline. The interaction terms (between group × time) were not significant for any of the outcome measures. No treatment effect was detected for any of the outcome variables. However, significant time effect was found for the SOQ total scores (P=0.001) and subscales (social disintegration, P=0.009; personal defect, P=0.008; the competency checklist, P=0.014; and the stress and coping scale, P=0.045). Both groups showed improvement with respect to all post-test 1 scores, which then gradually declined in subsequent tests.

Process evaluation: evaluation form

The participants gave positive feedback about the programme. They agreed that its objectives were appropriate and achieved, and had enhanced their knowledge, attitudes and skills in caring for suicidal patients and their families, which included confidence and competency in practice. They also claimed that the programme helped increase their alertness with regard to suicide prevention. Topics related to assessment protocol, intervention, case studies, sharing of experience and information about suicide were considered the most useful. Many participants suggested that the programme be extended to a week and include more discussion, case sharing, and real-life examples. Some wanted more skills practice using role plays and videos.

Process evaluation: focus group interviews

The participants agreed that sessions on suicide theories, statistics, 'myths and facts' and assessment of suicide risks were useful, and a 'no suicide' contract was particularly interesting. Case sharing was more helpful than theory to change the mindset of general nurses, and helped their learning in the management of similar cases. Role plays were similarly useful and interesting. Questions posed in the research questionnaires reinforced positive values and concepts. The handouts, notes and community resources information were useful.

The participants agreed that the programme met their expectations, and regarded case sharing as helpful to change mindsets and attitudes towards their patients. Many participants mentioned that the programme had enhanced their knowledge of suicidal risk factors, and helped increase their awareness of patients with suicidal intent. General nurses play an important role in coordination among disciplines and a multidisciplinary approach is essential in the care of suicidal patients. All participants agreed that the duration of the programme should be longer, which concurred with written comments in the evaluation form. They also recommended continuous learning and updates on the topic and that suicide prevention education not be confined to just a one-off course.

Table 2. Means and SD of all outcome measures of the study and control groups

Outcome measures	Mean (SD)			
	Pre-test	Post-test 1	Post-test 2	Post-test 3
Knowledge on management of patients with suicidal risk				
Study	5.00 (1.57)	5.54 (1.79)	5.61 (1.47)	5.44 (1.73)
Control	5.34 (1.81)	5.27 (1.79)	5.41 (1.85)	5.16 (2.07)
Suicide Opinion Questionnaire				
Total score				
Study	155.5 (10.90)	161.5 (13.60)	159.0 (15.23)	159.1 (13.71)
Control	155.2 (12.26)	158.8 (16.85)	157.8 (16.75)	159.8 (16.10)
Acceptability				
Study	27.74 (5.42)	28.85 (6.03)	28.59 (6.03)	28.70 (5.53)
Control	27.98 (4.67)	28.73 (5.75)	28.55 (6.18)	28.77 (6.53)
Perfect factual knowledge				
Study	29.19 (3.31)	29.20 (3.33)	29.83 (4.11)	29.63 (3.61)
Control	28.73 (3.88)	29.96 (5.76)	29.46 (3.80)	29.91 (4.12)
Social disintegration				
Study	32.46 (3.97)	34.72 (3.52)	33.96 (4.26)	33.83 (4.40)
Control	32.48 (4.16)	33.09 (4.72)	33.07 (5.13)	33.63 (5.00)
Personal defect				
Study	37.37 (3.28)	38.93 (4.30)	37.57 (3.87)	37.85 (3.53)
Control	37.80 (3.83)	38.71 (4.89)	38.16 (3.65)	38.71 (3.07)
Emotional perturbation				
Study	28.72 (2.62)	29.78 (3.04)	29.04 (3.43)	29.04 (3.06)
Control	28.18 (3.24)	28.27 (3.28)	28.55 (5.24)	28.79 (4.18)
Checklist on nursing management of patient with suicidal precaution				
Study	27.49 (9.20)	31.03 (5.97)	26.64 (11.27)	24.38 (13.56)
Control	27.60 (10.95)	28.71 (10.22)	29.17 (9.19)	27.21 (11.09)
Nurse's stress and coping in caring for a suicidal patient				
Study	16.29 (3.33)	16.04 (3.35)	15.27 (3.19)	15.64 (3.22)
Control	16.07 (2.72)	15.27 (2.51)	15.32 (2.96)	15.32 (3.06)

Table 3. Comparison of the four outcome measures between the study and control groups

Outcome measures	Baseline scores	Repeated-measures ANOVA		
		Group	Time	Group x time
Knowledge on management of patients with suicidal risk	T=-1.049, df=108, P=0.296	F(1,108)=0.147, P=0.702	F(3,106)=1.378, P=0.254	F(3,106)=1.409, P=0.244
Suicide Opinion Questionnaire				
Total score	T=0.137, df=108, P=0.891	F(1,108)=0.134, P=0.715	F(3,106)=5.835, P=0.001	F(3,106)=0.861, P=0.464
Acceptability	T=-0.25, df=108, P=0.803	F(1,108)=0.002, P=0.969	F(3,106)=1.479, P=0.225	F(3,106)=0.048, P=0.986
Perfect factual knowledge	T=0.658, df=108, P=0.512	F(1,108)=0.008, P=0.928	F(3,106)=1.598, P=0.194	F(3,106)=1.022, P=0.386
Social disintegration	T=-0.025, df=108, P=0.98	F(1,108)=0.997, P=0.320	F(3,106)=4.101, P=0.009	F(3,106)=2.190, P=0.093
Personal defect	T=-0.637, df=108, P=0.526	F(1,108)=0.508, P=0.478	F(3,106)=4.118, P=0.008	F(3,106)=0.686, P=0.563
Emotional perturbation	T=0.967, df=108, P=0.336	F(1,108)=1.890, P=0.172	F(3,106)=1.211, P=0.309	F(3,106)=1.373, P=0.255
Checklist on nursing management of patient with suicidal precaution	T=0.273, df=101, P=0.786	F(1,79)=0.205, P=0.652	F(3,77)=3.765, P=0.014	F(3,77)=1.986, P=0.123
Nurse's stress and coping in caring for a suicidal patient	T=0.701, df=93, P=0.485	F(1,87)=0.319, P=0.573	F(3,85)=2.789, P=0.045	F(3,85)=1.092, P=0.357

Outcome evaluation

After the education programme, participants regarded themselves as more competent in assessing, communicating with, and helping suicidal patients. Subjectively they felt their assessment skills had improved and that they had put theory into practice. Because of enhanced knowledge, they had more confidence in caring for and communicating with suicidal patients. The programme helped expose myths they previously had about suicide, and led to changes in their attitudes.

Among the most frequent barriers to caring for suicidal patients were insufficient time and staff. All participants commented on nursing shortages in the hospitals, and expressed frustration that they did not have the time to assess and observe patients at risk. There was a lack of support from senior management in providing psychological care for this group of patients. The physical environment of wards made observation and care difficult. Protocols were useful to guide care.

Discussion

This study evaluated an education programme to enhance

the knowledge, attitudes and competence of nurses in patient suicide prevention. The participants had spent an average of 16.42 (SD, 32.79) hours taking care of patients at risk of suicide in the previous 12 months. Therefore, it was not uncommon to encounter such patients.

Contrary to our expectations, the results showed no significant differences between the study and control groups for any of the outcome measures. Both groups showed improvement in all outcome measures across time between the pre- and post-test 1, but the scores gradually declined thereafter. Several factors could have influenced the results. Previous studies used a qualitative or a one-group pre-post test design,[4] whereas the present study used a control group.

The duration of the education programme might have been too short to produce a statistically significant difference between the two groups. Furthermore, as the participants in both groups worked in the same venues, communication between them was inevitable. Although we monitored the control group to ensure that they did not participate in any formal learning on the topic, informal learning (reading articles or books related to suicide prevention and management) could not be controlled. The motivation of participants was high. The control group filled in four sets of questionnaires four times, indicating interest in the subject of the study. They might have already been aware of the problem of suicide and willing to learn more. The questionnaires might have stimulated them to think more about the issues, search for answers for the test or read more about the subject, thus leading to improvement in outcome measures.

Focus group interviews provided a better understanding of the intervention. Process evaluation interviews suggested that the programme content was essential and appropriate. The participants realised the need for continuous learning. They suggested lengthening the duration of the course and elaboration on topics such as handling aggression. These topics reflected their learning needs and concerns in clinical practice. The participants encountered more often patients with aggressive behaviour than in the past.

From outcome evaluation interviews, the participants considered that the education programme enhanced their knowledge, attitudes, confidence, and competence in the topics. The knowledge gained from the programme helped expose myths related to suicide, thus enabling the nurses to change attitudes towards the care of this patient group. With increased knowledge, they had more confidence in taking care of them.

The participants' verbal accounts revealed a change in attitudes towards suicide prevention and management. The findings of this study supported the importance of a positive attitude towards developing greater awareness of the problem of suicide, willingness to talk to patients, and improved assessment skills.

The reflective learning method used in the programme was appreciated, and was similar to a previous study showing that reflective discussion was an appropriate learning method for experienced nurses.[4] Adults learn by relating new knowledge to their personal experience and gain new perspectives from reflection.[5] Participants suggested that more discussions and role plays be included in future presentations of the programme.

The qualitative data revealed the particular concerns of nurses relating to the care of this patient group, which could be of relevance to future practice. Comments about support from senior staff members, nursing shortages, organisation of care and the physical environment reflected the difficulties they encountered when caring for patients at risk of suicide. Although suicide prevention and management is an important topic, nurses could not get support from the senior management in attending education programmes. In clinical areas, there was inadequate support for providing care to patients with suicidal intent. The social system and organisational factors were found to influence staff self-perceived ability to implement changes.

The physical structure of a general ward differs from that of a purpose-built mental health unit specially designed to take safety into account and enable observation of patients at high risk of suicide. This can pose problems of implementing common interventions such as the regular observation of patients for suicidal behaviour difficult. The crowded ward environment might also make it difficult to provide a place in which patients can privately express their feelings.

This study assessed only those who were willing to participate. The results might not be generalisable to those who refused to do so. We shortened the duration of the education programme, which may have influenced outcomes. This study measured only subjective attitudes and competency, not actual performance.

Implications

Future programmes could strengthen the content concerning watchfulness for potentially dangerous articles, communication and counselling for suicidal patients and their relatives and handling of their aggressive behaviour. Skills related to working and communicating in multidisciplinary teams in the care of suicidal patients could also be strengthened. Interactive learning methods in the form of role plays, practical sessions and case discussion are conducive to learning.

The duration of education needed to produce behavioural changes needs to be further studied. Continuous education is needed if new skills and knowledge are to be internalised, and changes made. Ongoing evaluation of the programme is needed to facilitate improvement.

There is a need to review the organisation of care and policies related to the care of suicidal patients in hospitals. Adequate staffing, improved communication with specialists in mental health services, support from senior colleagues and those in other disciplines, protocols to guide care and practice are all necessary. Furthermore, modification of care models and the physical environment are needed to facilitate appropriate care to this patient group from nurses.

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