



Use of a think-aloud procedure to explore the relationship between clinical reasoning and solution-focused training in self-harm for emergency nurses

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Self-harm is a risk factor for further episodes of self-harm and suicide. The most common service used by self-injurers is the emergency department. However, very often, nurses have received no special training to identify and address the needs of these patients. In addition this care context is typically biomedical and without psychosocial skills, nurses can tend to feel unprepared and lacking in confidence, particularly on the issue of self-harm. In a study that aimed to improve understanding and teach solution-focused skills to emergency nurses so that they may be more helpful with patients who self-harm, several outcome measures were considered, including knowledge, professional identity and clinical reasoning. The think-aloud procedure was used as a way of exploring and improving the solution-focused nature of nurses' clinical reasoning in a range of self-harm scenarios. A total of 28 emergency nurses completed the activity. Data were audiotaped, transcribed and analysed. The results indicated that significant improvements were noted in nurses' ability to consider the patients' psychosocial needs following the intervention. Thus this study has shown that interactive education not only improves attitude and confidence but enlarges nurses' reasoning skills to include psychosocial needs. This is likely to improve the quality of care provided to patients with mental health problems who present to emergency settings, reducing stigma for patients and providing the important first steps to enduring change – acknowledgment and respect.

Keywords: education, emergency, nursing, self-harm, solution-focused nursing, think-aloud

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Introduction

Australian emergency nurses, as those elsewhere, work in a high-pressure, unpredictable environment where there is ongoing need to provide safe, systematic care to a diverse

body of patients and their worried families. With the advent of mental health reforms in Australia that aim to reduce stigma and enhance equitable care for all patients, regardless of health problem, emergency nurses are now caring also for patients with mental health problems on a

regular basis. Many of these people present because they have self-harmed and are in crisis.

Self-harm is a complex psychosocial problem that still remains poorly understood, even by skilled and conscientious health professionals. It can range from acts that are suicidal to non-suicidal, superficial to life-threatening, once only to frequently repeated, and can be a way to relieve tension, communicate unmet needs or escape greater pain (Skegg 2005). However, although accounting for 20% of all Australian hospital attendances and 7% of admissions (Berry & Harrison 2007), self-injurers are more likely to become suicidal than the general population, and there is growing understanding of the issues that impede recovery and reduce their care (Isacsson & Rich 2001).

Although emergency nurses may believe these patients deserve the same care as anyone else, these nurses work in a predominantly biomedical treatment context, which is not always a fitting context for patients who self-injure. Also, while emergency nurses' accuracy in assessing medical presentation is generally high (Hay *et al.* 2001), accuracy is reported to be much lower with mental health presentations (Happell *et al.* 2002). Moreover, as self-harming patients become increasingly common emergency presentations, these nurses may also lack the necessary preparatory knowledge, understanding and communication skills to provide treatment for these patients, and this limits ability to care and for patients' rights in accessing quality care (McAllister *et al.* 2002).

It follows that emergency department (ED) nurses are not mental health nurses and cannot be expected to provide all the necessary psychosocial care. However, there are ways for mental health clinicians and ED staff to work more collaboratively and in using each others' skills in the provision of care for self-harming patient. Yet, studies indicate many emergency nurses lack both confidence and skills in working with these kinds of patients, in particular, they need to demonstrate more caring behaviours and be less judgmental (Perego 1999, McKinlay *et al.* 2001).

Being able to listen attentively, give reassurance, offer support and acknowledge feelings are vital person-centred, strategic skills that promote therapeutic optimism and change (Williams 1999, McCormack & McCance 2006). These skills and subsequent regard shown to a patient are part of the clinical reasoning that nurses use when assessing a patient with mental health needs in the ED. This includes a consideration of psychosocial factors. Improved clinical reasoning may strengthen nursing practice by increasing the accuracy of assessments thereby improving patient outcomes. These assumptions underpin a solution-focused philosophy of working with patients (McAllister 2007). This approach aims to differentiate nursing from medicine,

by offering nursing strategies to build patients' strengths rather than struggle against perceived deficiencies. This approach also offers positive helping strategies that general nurses may use with patients who present with issues, such as self-harm, as it can comprise part of the patient assessment process.

The education intervention

An interactive, 2-h lecture and discussion was developed and implemented by the first author, an experienced educationalist, to convey the insights of this solution orientation. It included ice-breaking activities and discussion to understand participants' attitudes, learning issues and current practice demands in relation to self-injury. Using power-point presentations, short video excerpts, narratives from clinical experience and consumer reports, participants were then engaged in learning about theories for understanding self-injury as well as evidence-based treatments. After a short break, participants then learned about 'Solution Focused Nursing' and how it could be applied to self-injury (McAllister 2003, 2007). This approach explicitly shifts the clinician's orientation from a deficit approach ('what's wrong with this patient') towards a concern for future change and recovery – so that the clinician is attempting to facilitate transition for patients, transforming the present crisis into a turning point, one that facilitates transition rather than reinforces the status quo. In this way, the nurse is not just interested in treating problems, but in preventing distress and promoting health and well-being. In particular, participants explored and discussed brief communication skills to use in the context of a busy ED, which would help to engage the person, validate their health-seeking behaviour, as well as convey an interest in the patient as person. Communication strategies such as the nurse trying to use the person's prior to making a request or asking a question, explaining the waiting time and checking on ongoing perceptions of safety, were demonstrated by the instructor. Included also was explanation on how to use the CARE framework (an acronym for containment, awareness, resilience and engagement) – where nursing work is seen to encompass engagement, containment, awareness raising and resilience building (McAllister & Walsh 2004). In this way, participants were given a practical way not just to focus on the problem (the self-injury) but also to remember to emphasize education, strengths development and efforts to engage the patient in self-care. Finally, the intervention recommended the distribution of brochures to provide information that affirmed self-injury as a coping strategy, but which also aimed to move the client from lack of awareness towards feeling motivated to secure community supports and enact change.

Method

Setting

The research was funded by the Queensland Nursing Council to implement and test an education intervention that aimed to teach solution-oriented nursing skills to two groups of emergency nurses, each located in large publicly funded EDs in South East Queensland. Participants self-selected to be involved in response to an invitation to all emergency nursing staff. The first group practise in Queensland's third largest hospital that serves a population of 400 000 and has a nursing complement of about 90 shift workers. The second group practise in regional hospital serving a population area of 145 000, which has a nursing staff of about 70.

Design

A pre-test post-test study was designed to measure changes in professional identity and the perceived relevance of a solution-focused approach to emergency care of a patient who self-harms (see McAllister *et al.* 2007). In addition to survey instruments that generated quantitative data, interviews were used to elicit qualitative data on suggestions for improvements to assessment and responses to self-harming patients. This required the use of think-aloud procedures that enabled clinical reasoning to be articulated and analysed.

The think-aloud procedure

The think-aloud procedure is a well-used method for measuring clinical reasoning among nurses that involves providing participants with real or simulated patient situations and asking participants to 'think aloud' their plans and decisions intended to be used and then analysing this data (Ericsson & Simon 1993, Paterson & Thorne 2000, Offredy 2002, Simmons *et al.* 2003). The think-aloud procedure is particularly useful in uncovering participants' everyday decisions and protocols (Billett 2001). In addition, these decisions can be appraised at various points in time, thus giving some indication as to their knowledge about the particular problem.

In this study, simulated patient situations, or scenarios, were selected as it was not feasible or appropriate to elicit this information from actual patient–nurse interactions. Scenarios derived from actual self-harming patients in ED were developed, each about 200 words long. Four of these were selected by the three independent data analysts as being suitably challenging for nurses not specialized as mental health nurses. The scenarios featured a range of

issues including severe self-injury, repeated self-injury and unusual incidents. Three featured women and one featured a man. Data provided through the nurses' responses to scenarios were analysed by three people independent to the research team and who were selected because of their familiarity and proficiency with both solution-focused nursing and self-harm (see Fig. 1).

Using the scenarios in this way served two purposes. They formed part of the educational intervention and are thus constituted learning experiences in their own right. They also provided data to indicate initial and post-intervention levels of understanding. Thus they were designed to both develop and test participant's understanding.

Participants engaged in this procedure twice, reading four scenarios in total – two before the intervention and two approximately 2 weeks after intervention. Participants first learned how to use a digital voice recorder and what the scenarios involved. They were provided with a comfortable private space to read the scenario and then were given time to answer a series of questions that prompted them to report everything they were thinking from the time they were given the case study. The questions included: what is your evaluation of the patient's condition? Why is that? What would you recommend in response to his/her condition? Why is that? Could you please recall your thinking processes in reaching conclusions about the patient's condition and your recommended response?

Analysis

The audio-data were transcribed and analysed by the three independent experts, to assess how comprehensive and effective each of participant's solution-orientated plan of care was, and whether there was any evidence of growing person-centredness, strategic care or confidence in problem solving with simulated patients. A standard evaluation form was designed and developed in collaboration with these experts (see Table 1).

The data yielded were both qualitative and quantitative. The experts graded the responses using the criteria on the evaluation form, and a single numerical score out of 5 was produced by each of the three raters, producing a maximum possible total score for a participant of 15 per case study. Because each participant reasoned through two scenarios each time, they were able to score a maximum of 30 at the two testing times (before the intervention and afterwards). This evaluation process identified changes in the participating nurses' knowledge of caring for self-harming patients.

Results

Twenty-eight nurses' responses out of a possible 36 think-aloud procedures produced complete data sets for analysis.

Sally

I had been getting flashbacks of past abuse for a few days and my ability to connect with present reality was quite impaired. In fear, confusion and imitation of the abuse, I inflicted four serious (full-thickness) burns on my forearms. My husband realised that these needed medical treatment and took me to the local GP.

After the doctor had given me a lecture about how I should not do such things to myself, he left me with the young nurse who worked for the practice, who was to do the dressings. The nurse looked quite uncomfortable and seemed at a loss as to what to do with me while she looked after the wounds.

Lynne

Lynne, 26, a mother of two, took an overdose of 24 paracetamol tablets. She was admitted from Emergency to the short stay ward and treated with acetylcysteine.

Three months before she had separated from her partner, Pete, who had physically abused her. Since that time she had felt tense, irritable, unsafe and out of control. She did not feel she could turn to her mother for help as she had advised Ms Jennings not to get involved with Pete. Ms Jennings also had bills she did not know how to pay. Pete had supported her financially and helped with the children. Now that support was less reliable.

On the day of the overdose, Pete had brought the children back late after a day out and the pair had rowed. When the children had gone to bed, Ms Jennings, feeling alone and upset, started drinking wine.

She had a headache and reached for the paracetamol, taking just a couple at first then the rest. She felt overwhelmed by worries, and that no one cared. She lay on the sofa to sleep, not caring if she never woke up.

But she started to feel unwell and telephoned her mother to tell her about the overdose. Her mother phoned an ambulance and came round to look after the children.

Figure 1
Scenario examples

Some participants did not complete all four scenarios, or data were not able to be transcribed. Incomplete data were removed.

Changes in reasoning

Analysis of the think-aloud data by the three experts indicated a pattern of positive changes in reasoning and intended behaviour. The pre-test mean was 13.3 (from a possible score of 30); post-test mean was 15.4 (from a possible score 30). The paired $t(27) = -2.62, P < 0.05$. This is an indication that these emergency nurses had developed enhanced understandings of and practices for self-harming patients, which could be taken as a predictor of better care provisions in the future.

Figure 2 depicts the changes for the 28 nurses involved in the think-aloud procedure. Most nurses ($n = 17$) were

graded more highly in their solution-focused reasoning following the intervention. Four nurses' responses stayed the same, and seven experienced a lower grade. This is attributed to the follow-up scenarios, which were slightly more complex and difficult.

The sum of each expert rater's grade per participant for the post-intervention think-aloud activity averaged at only 15 out of 30, indicating the scope of the further development required for these emergency nurses to become highly proficient in caring for self-harming patients. For example, one participant, reasoning through 'Sally's' case before the intervention, provided these comments:

Sounds like Sally's got some problems in the past and she's not coping . . . I would recommend her wounds be dressed, and ask some simple questions like 'what happened'. I'd recommend she not leave the department and get some mental health help. Something's driven her

Table 1
Criteria for assessing participants' responses to the cases

		Degree of understanding and clinical judgment				
Criteria	Exemplary	Excellent response	Adequate response	Potentially inadequate response	Inadequate response	N/A
Engaging attributes are apparent	A highly skilled approach is evident – there is a sense of respectful, solution-oriented, supportive, caring and kind presence. The feelings of the person are acknowledged	Generally the approach seems skilled – mostly the person conveys a respectful, solution-oriented, supportive and kind presence	Some of the features of a skilled approach are present – sometimes seems respectful, or caring, or kind, or solution-oriented	Basic skills are evident – there is a caring stance at times, but mostly there is not much kindness or a solution orientation. Person's feelings seem to be mostly overlooked	Falls short of providing basic humanistic care. The person's feelings are not acknowledged, or are overlooked and a solution orientation is not apparent	
Concerns and issues are considered effectively, safely and thoroughly	The approach to containment and assessment is exemplary. Throughout the approach balances a focus on strengths and capabilities as well as vulnerabilities. The care at all times seems safe and effective	Generally the approach to assessment and containment is comprehensive. Throughout the approach mostly balances a focus on strengths, capabilities and vulnerabilities. The care most times seems safe and effective	The approach to assessment is safe but not thorough. The approach tends to focus more on vulnerabilities and needs than it does on person's capabilities. The care provides basic safety	The approach to assessment is incomplete and potentially unsafe. There is a focus on person's strengths are rarely considered. The care is likely to be sometimes unsafe or ineffective	The approach to assessment is not safe and so falls short of standard care. The focus is on some of the presenting problems, and it seems likely that the care will be unsafe and ineffective	
Self-harm understanding is conveyed appropriately to the person	The nature of self-harm seems to be keenly understood. Solutions/change is not forced. The person is helped to feel secure. Concern for ongoing safety and support is conveyed	The nature of self-harm is generally well understood. Because of the approach, it is likely that the person may feel safe and secure. Concern for the person is generally apparent	The understanding of self-harm is basic. Because of the approach, it is likely that the person may at times feel insecure/unsafe. Concern for the person is sometimes not apparent	The understanding of self-harm is basic, although inaccurate knowledge is sometimes apparent. Because of the approach, it is more likely that the person may feel a lack of concern, insecure/unsafe	The understanding of self-harm is inadequate. Because of the approach, it is likely that the person will feel insecure and unsafe. There is a lack of concern for the person	
Future coping and resilience are considered	Ongoing coping mechanisms are considered and appropriately discussed. Networks and supports are briefly discussed or conveyed. Optimism and hope for the future is conveyed. Own ongoing care is evaluated, and it is likely to be ongoing	Consideration is given to the person's future coping. Future strategies are considered with them. Networks and supports are conveyed. There is a general feeling of optimism and hope for the future	Limited consideration is given to the person's future coping. Future strategies are only minimally considered. Community resources may be conveyed but in a way unlikely to be effective. There is a tendency to disregard optimism	Limited consideration is given to the person's future coping. Future strategies are not well considered. Community resources may be conveyed or overlooked. A sense of optimism is missing	Future coping and support are not considered. A sense of apathy, helplessness or even pessimism is conveyed	

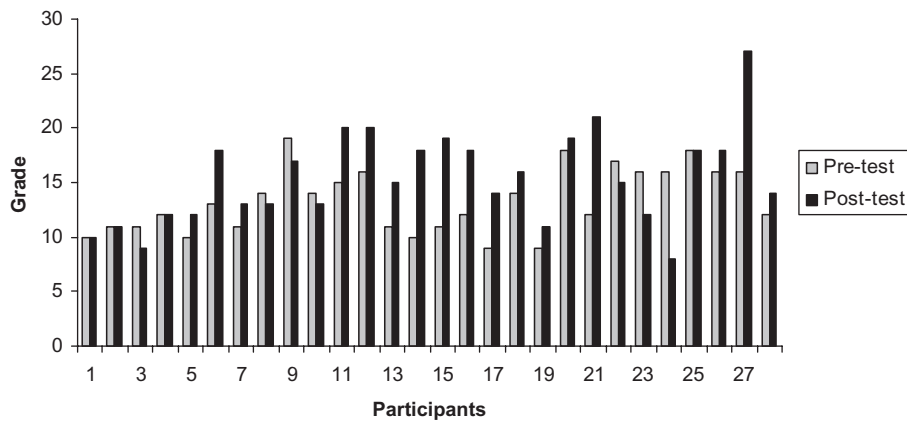


Figure 2
Changes in reasoning

to self-harm. I'd advise the junior nurse not to be afraid.

The evaluators rated this response as limited, but safe. Comment was made that the nurse's response demonstrated an ability to identify ways to engage the person in discussion and that there was a link between past events and current actions, but that the response lacked an effective strategy.

Following the intervention, this same participant, reasoning through 'Lynne's' case responded in the following way:

She's obviously depressed and with good reason: she's had a huge life change (describes these). I would recommend that once she's medically cleared that she start looking into getting some help, maybe trying to trust her Mum a little bit more. I think that in time, with counseling and help, she might be able to change her life. I think that what we have to do is say that she's done the right thing and next time – or hopefully there won't be a next time – she might be able to call for help before she gets to that point of taking too many tablets. I think she really needs some support to change her life around, but she's feeling so flat and low, she might need medication and support to start feeling better about life, but that all takes time.

The evaluators rated this as 'excellent', commenting that the response demonstrated a sense of empathy and hopefulness, a consideration for the life context and for specific support and referral sources.

The experts commented that, in general, there was a tendency for participants to continue to focus on the medical or physical aspects of their work and, often demonstrated a lack of awareness that they could use the self therapeutically. In addition, when nurses' responses were to refer the patient to a more specialized clinician, this was most often a psychologist or social worker. Rarely did they suggest referring the patient to mental health nurses.

Changes were noted in participants' total scores for solution-focused reasoning (see Fig. 4). The total score was calculated for all participants given by the three experts for each of the four domains assessed (i.e. ability to: engage the patient, accurately assess the patient's psychosocial needs, convey accurate information about self-harm and consider future support and referral needs).

Figure 3 depicts the changes in solution-focused reasoning that occurred for all participants using a before- and after-case scenario. The maximum possible score was 420 [number of participants ($n = 28$) \times 3 raters \times maximum possible score of 5 = 420]. This indicates that the experts considered participants' solution-focused abilities to be quite low, even following the intervention.

The domain in which participants initially performed most poorly – ability to consider future support and referral needs – was also the one where the greatest improvement was demonstrated. This finding is interesting, because much criticism has been levelled at emergency clinicians who seem to care only for the patient's presenting injury and immediate needs (McCormack & McCance 2006). This has been described as a deficit model, or problem orientation; it is criticized for tending towards being reactive rather than proactive, and concerned only with the present, when contemporary practice is to be recovery and future-oriented (Lightburn & Sessions 2005, Queensland Health 2005).

Discussion and conclusion

The intervention programme led to the development of new nursing skills, such as the ability to ask more focused questions and to communicate in more supportive and effective ways. Within this small pilot study, the intervention programme appears to have extended understanding and skills in nurses. Participants reported being more able to help and having a clearer sense of the nursing role in the

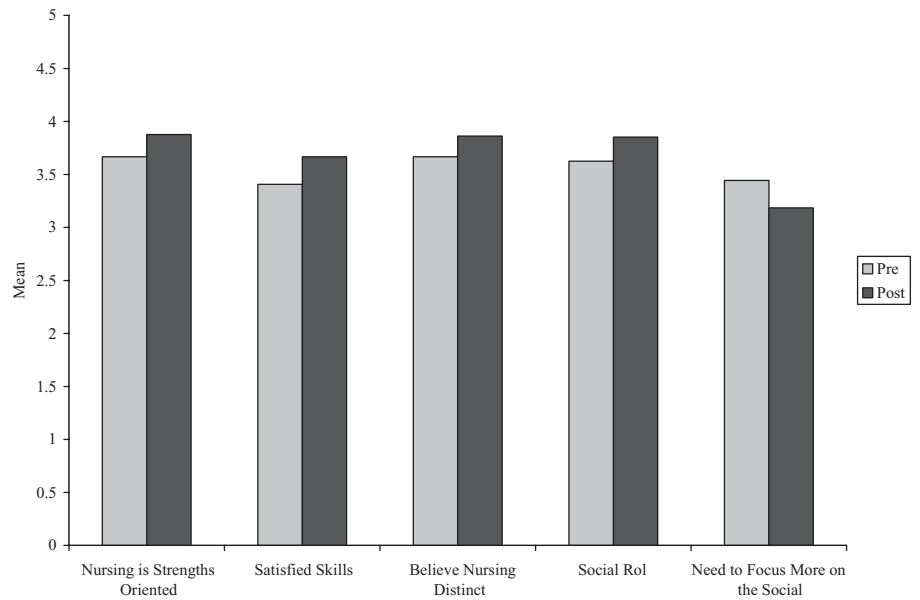


Figure 3
Significant or marginal differences for pre-test vs. post-test reports from nurses involved in the intervention

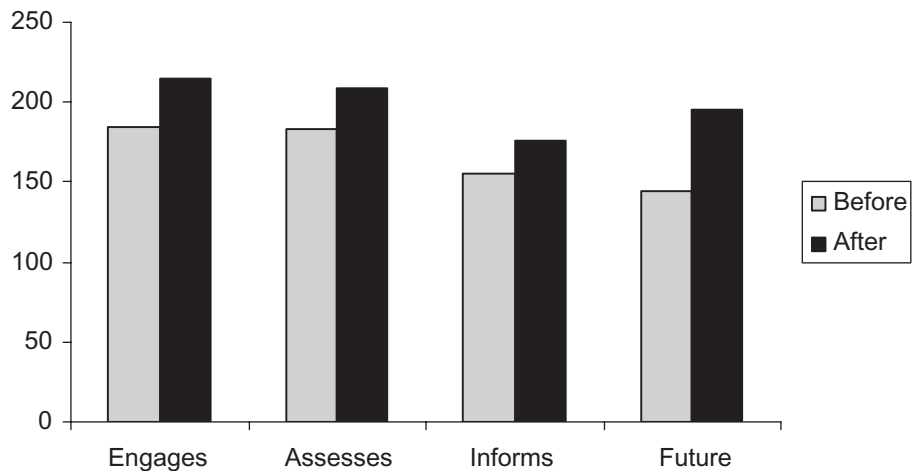


Figure 4
Changes in solution-focused domains of reasoning

emergency care of self-harming patients. Nurses were able to experience in this method, opportunities to positively influence patients, and the reasoning skills, while developing, were being applied in ways that nurses felt were more person-centred, change-oriented and effective. These are indications that solution-focused nursing is an efficacious model of nurse–patient care.

The Australian policy of mainstreaming patients with mental health problems means that patients who self-harm will continue to be triaged and treated in general EDs. Although most EDs are serviced by mental health teams, general nurses are also involved in the triage and care of patients with mental health problems. The tentative evidence from this study indicates that interactive education has some potential to improve emergency nurses' attitude and confidence including addressing patients' psychosocial needs. If such findings can be more widely proven, such

interventions could improve the quality of care provided to patients with mental health problems who present to emergency settings, reducing stigma for patients and providing the important first steps to enduring change – acknowledgment and respect.

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