

Knowledge and perception of fall prevention in hospital: A survey of nursing staff

Dear Editor,

Hospital falls are a common debilitating problem worldwide and are associated with negative patient outcomes and increased financial costs to organisations.^{1,2} While current research has demonstrated the positive impact of a multifaceted fall prevention programme in hospitals, results have been mixed in showing a statistically significant decline in inpatient fall rate.³

Understanding and incorporating behavioural change processes in hospital fall programmes will likely increase the efficacy of such programmes. This would involve the identification of specific behavioural targets that potential interventions may focus on. There has been limited research worldwide highlighting the behavioural change processes involved, through specifically identifying healthcare staff's level of knowledge and awareness of falls, while determining their motivation and opportunities in administering fall prevention strategies. A systematic review showed that addressing these factors was associated with a more successful implementation of a fall prevention programme.³

In Singapore and regionally, studies on hospital fall prevention programmes that target healthcare staff are limited. One study in Singapore showed that while a fall prevention programme was effective in increasing the knowledge of nurses, it did not have a significant impact in reducing in-hospital fall rate.⁴ The study concluded that the increase in nurses' knowledge and change in nursing practice were important markers of success for inpatient fall prevention.

To the best of our knowledge, there have been no studies in Singapore that specifically evaluated the behavioural change processes involved in fall prevention. We aimed to (1) describe the knowledge and awareness of nursing staff in inpatient falls; (2) determine their motivation levels to engage in fall prevention strategies; and (3) identify opportunity enablers and barriers for administering the strategies. This study was approved by the National Healthcare Group ethics committee (DSRB reference number 2020/00709).

Our survey comprised an online questionnaire that was disseminated to all nursing staff in Alexandra Hospital, Singapore in May 2020. The questionnaire was developed after an extensive literature review on questionnaires that investigated knowledge and attitude of fall awareness of nursing staff in healthcare settings.⁵ The framework of questions was centred on the

Capability, Opportunity and Motivation Model of Behaviour (COM-B)⁶ which postulates that for any behaviour to occur, one needs to have psychological and physical capability to perform the behaviour, the motivation to do so, and the physical and social opportunity to execute it. Our questionnaire aimed to identify nursing staff's current levels of capability (measured by knowledge and awareness), motivation, and the opportunities for fall prevention programmes in hospitals.

In total, 120 nursing staff across 8 medical wards participated in the survey. Survey responses are summarised in Table 1. In terms of knowledge, 84 (70.0%) correctly defined a fall as "an event which results in a person coming to rest inadvertently on the ground or floor or other lower level", as defined by the World Health Organization.⁷ There were 57 (47.5%) and 48 (40.0%) respondents who were 100% and 75% aware of the fall risks of patients under their care, respectively.

Respondents were also asked to identify fall prevention strategies that they had used. All of them had educated patients on fall prevention; supervised a high fall-risk patient during mobilisation; looked out for environmental hazards; and communicated with other staff about a patient's fall risks. Nearly all respondents 116 (96.7%) used continence management to minimise fall risks, while 72 (60.0%) used physical restraints for patients with behavioural issues.

Our survey identified that there are still gaps in knowledge of fall prevention among our nursing staff. More than half used physical restraints in patients with behavioural issues to reduce their fall risk. However, research data suggest that physical restraints may not reduce, but in fact increase the risk of falling.⁸ A cluster randomised controlled trial demonstrated that healthcare staff education can increase knowledge and change staff attitudes, and in turn decrease the use of physical restraints without any change in inpatient fall rates.⁹ Staff education is a key component in any multifaceted fall prevention effort. Targeting the exact areas of knowledge gaps would allow misconceptions to be directly addressed. This also improves existing fall prevention efforts already in place.

Our results demonstrated that despite the nursing staff being highly motivated to prevent falls, there were perceived limitations in the opportunity to execute fall

Table 1. Responses by nursing staff to questionnaire items targeted at assessing respondents' level of awareness, confidence and motivation; and to opportunities in administering fall prevention strategies

Questionnaire item	Responses, ^a no. (%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Awareness of inpatient falls risk					
I think falls are a serious problem in the hospital	82 (68.3)	33 (27.5%)	4 (3.3)	1 (0.8)	0
Confidence and motivation to administer fall prevention measures					
I am confident in preventing falls in the hospital	42 (35.0)	61 (50.8)	16 (13.3)	1 (0.8)	0
I am keen to prevent falls in hospital	76 (63.3)	43 (35.8)	1 (0.8)	0	0
Perception of team and training					
I work as part of a team to prevent falls in Alexandra Hospital	66 (55.0)	47 (39.2)	7 (5.8)	0	0
I have been trained in fall prevention in the hospital	63 (52.5)	52 (43.3)	5 (4.2)	0	0
The hospital has done well in preventing falls in the hospital	45 (37.5)	57 (47.5)	16 (13.3)	2 (1.7)	0
Staff-to-patient ratio is adequate in hospital to prevent falls	9 (7.5)	33 (27.5)	51 (42.5)	19 (15.8)	8 (6.7)
Technology is useful in preventing falls in the hospital	21 (17.5)	52 (43.3)	40 (33.3)	6 (5.0)	1 (0.8)

^a A 5-point Likert scale was used to measure responses

interventions. Almost all but 1 respondent (99.2%) either agreed or strongly agreed with the questionnaire item, indicating they were keen to prevent falls in hospital. However, only 42 (35%) agreed or strongly agreed that they felt staff-to-patient ratio is adequate in their hospital to prevent falls.

Increasing nursing staff numbers may not always be possible due to resource limitation. This limitation could be addressed through other means instead. Only 94 (78.4%) respondents had the opportunity to use technology in fall prevention in the hospital, a significantly lower number compared to the other strategies utilised. Recent evidence exists on the use of video monitors and webcams to reduce fall rates; reduce sitter usage; improve overall patient and staff satisfaction; allow for better fall analysis; and improve understanding of fall mechanisms in inpatients.^{10,11} Fall prevention technology has a potential to overcome intractable barriers such as staffing ratios and round-the-clock supervision of patients. However, substantial work is needed to refine the clinical deployment of such technology and further studies are needed to evaluate these tools in various clinical settings, with concomitant training and engagement of healthcare staff to effectively utilise them.

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