2016

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Jo-Aine Hang
Jacqueline Francis-Coad
The University of Notre Dame Australia, jacqui.francis-coad@nd.edu.au
Bianca Burro
Debbie Nobre
Anne-Marie Hill

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This article was originally published as:

Original article available here:
10.1016/j.gerinurse.2016.06.019

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This is the accepted manuscript version of an article published as:


This article has been published in final form at https://doi.org/10.1016/j.gerinurse.2016.06.019
Title

Assessing knowledge, motivation and perceptions about falls prevention among care staff in a residential aged care setting

Authors

Jo-Aine Hang BSc Phty (Hons), a Jacqueline Francis-Coad MClin Phty, a Bianca Burro BSc Phty (Hons), a Debbie Nobre BA (Social Sciences), b Anne-Marie Hill, PhD c

aSchool of Physiotherapy, The University of Notre Dame Australia, Fremantle
PO Box 1225 Fremantle WA Australia 6959
jacqui.francis-coad@nd.edu.au, bianca.burro@nd.edu.au

bAllied Health Consultant, Brightwater Care Group, Osborne Park, Western Australia
Brightwater House Central Office, Level 3, 355 Scarborough Beach Rd, Osborne Park WA Australia 6017
debbie.nobre@brighwatergroup.com

cSchool of Physiotherapy and Exercise Science, Faculty of Health Sciences, Curtin University, Kent St, GPO Box U1987, Perth WA 6845
anne-marie.hill@curtin.edu.au

Corresponding author
Miss Jo-Aine Hang BSc Phty (Hons)

School of Physiotherapy

The University of Notre Dame Australia

PO Box 1225 Fremantle WA Australia 6959

Ph: +61 8 94330239

Fax: +61 8 94330556

Email: joaine.hang1@my.nd.edu.au

Acknowledgements

The authors would like to thank Community of Practice members, facility managers, nursing and care staff at the participating Brightwater care group site for their support and assistance in conducting the study.
Title

Assessing knowledge, motivation and perceptions about falls prevention among care staff in a residential aged care setting
ABSTRACT

Falls are a serious problem in residential aged care settings. The aims of the study were to determine the feasibility of surveying care staff regarding falls prevention, and describe care staff levels of knowledge and awareness of residents’ risk of falls, knowledge about falls prevention, motivation and confidence to implement falls prevention strategies in a RAC setting. A custom designed questionnaire was administered to care staff at one site of a large residential aged care provider organization in Australia. The survey response was 58.8%. Feedback from staff was used to inform the administration of the survey to the wider organization. Seven (29.2%) care staff reported they were unsure or thought residents were at low risk of falls. Only five (20.8%) care staff were able to suggest more than three prevention strategies and only 13 (54.2%) were able to describe the residents’ falls prevention plans. These preliminary findings suggest that education to change care staff behavior regarding falls prevention should target improving care staff knowledge and awareness of falls.
Introduction

Falls are a serious problem in residential aged care (RAC) settings with studies demonstrating up to 50% of the residents fall over within 12 months of admission.\textsuperscript{1,2,4} Falls rates among this population have been found to be approximately 1.6 falls per bed per year.\textsuperscript{1,3} and these falls frequently result in injury and disability\textsuperscript{3,4,5} with an estimated incidence rate of hip fracture between 3% and 5% annually.\textsuperscript{3,6,7} Risk factors for falls among residents include a history of falls, use of walking aids, reduced balance and some categories of medication,\textsuperscript{8,9} but studies identify that in RAC and hospital settings environmental factors such as lighting, bed height and flooring are also strongly implicated in patient falls.\textsuperscript{1,8,10}

These frailer, older people are often restricted in activities of daily living (ADL) (81.3% have some form of disability) and it is estimated that 68% have a cognitive impairment, meaning they are potentially more vulnerable to falls.\textsuperscript{11} Therefore undertaking falls prevention strategies independently, on a daily basis, may be beyond the physical and cognitive capabilities of the majority. Hence, care staff are important stakeholders in assisting residents to prevent falls in RAC settings.\textsuperscript{8,12} Care staff, also known as certified nursing assistants or care workers in Australia,\textsuperscript{13} are responsible for supporting nurses in providing patient care. They provide direct assistance to residents for ADL, but do not undertake university education and may only have undertaken informal workplace training.\textsuperscript{14} Previous studies have estimated that care staff in RAC spend approximately 45.4% of an eight hour shift on direct care\textsuperscript{14} as compared to allied health professionals, such as physiotherapists, who spend an average of 2.3% of an eight hour shift on direct care in this setting.\textsuperscript{15}

RAC organizations in Australia are required to meet the accreditation standards set out by the Australian Aged Care Quality Agency (AACQA) to ensure high quality care is delivered to
residents. This requires care staff to be equipped with knowledge and skills to perform their roles effectively.\textsuperscript{16} Care staff are required to directly undertake falls prevention strategies with residents and also complete indirect falls management procedures such as communicating care plan changes to other staff, informing new care staff about falls prevention strategies used for residents and translating new evidence into practice in a timely manner.\textsuperscript{17} Previous research has also found that care staffs’ perceptions of falls and patient safety culture have an impact on falls prevention. Care staff awareness and knowledge of falls prevention strategies can improve adverse event reporting.\textsuperscript{10,18} A previous study surveyed nursing assistants to validate a scale that can be used to assess their perceived self-efficacy in preventing falls for the patients they cared for.\textsuperscript{10} Whilst care staff self-efficacy has been evaluated there is limited research regarding their knowledge and motivation to prevent falls in a RAC setting.

The aims of this study were to i) determine the feasibility of conducting a survey of care staff in RAC regarding falls and falls prevention; ii) describe care staff levels of knowledge and awareness of residents’ falls risks, knowledge about falls prevention, and motivation and confidence to provide falls prevention strategies in a RAC setting.
Methods & Procedure

Study Design

This was a feasibility study using a cross-sectional survey. This research was approved by the University human research ethics committee and the RAC organization. Care staff were provided with information about the study and those who consented to participate completed the survey anonymously. This study was part of a larger study conducted within the RAC organization, which was evaluating how a group of staff leaders in falls prevention could translate falls prevention evidence into practice across the organization. All staff working in the organization were informed of the data collection period for the larger study. The larger study received ethical approval from the University human research ethics committee and the RAC organization.

Setting

This research was conducted at a selected site of a large RAC organization in Australia. There were 62 residents with differing care needs and functional ability, including residents with dementia living at the site. The site consisted of four residential wings, which were combined with communal living areas and gardens to form a single home like environment. This RAC site was one of the 13 sites operated by the RAC provider organization, which has a central corporate office providing on-going training and support for staff at all sites. New care staff receive two days orientation training including Occupational Health and Safety process and general manual handling for both care staff and residents’ safety. Orientation does not include dedicated information on resident falls, falls risk factors or falls prevention strategies. The pilot site was one of six (46.2%) RAC sites within the organization which provided an annual tutorial for ongoing falls education for care staff at their site staff.
meeting. However falls education content varied in quality, was not standardized across different sites of the organization and was attended by limited numbers of staff.

Participants and Recruitment

Recruitment took place between January 1st and March 31st 2015. There were forty one care staff working at the site and all were invited to participate in the pilot study. Inclusion criteria were that the staff member had been working at the site for a minimum of 3 months, was aged over 18 years and was able to read and write English sufficiently to respond to the survey.

Questionnaire Development

A questionnaire was developed, using principles of questionnaire design to describe and explore care staff knowledge, motivation, confidence and awareness regarding falls prevention at RAC sites. The questionnaire consisted of 36 items which used a mix of open and closed-ended responses to collect quantitative and qualitative data. The Likert scale was chosen to provide response options for closed ended items, as this is the most frequently used scale in psychology and education for rating beliefs, opinions and attitudes which cannot be measured precisely. Potential participants were care staff who had undertaken a variety of training, ranging from informal to certified technical college programs. Therefore questions were written using simple, clear and unambiguous language to ensure the questionnaire could be completed by participants with varying levels of literacy, such as those care staff who spoke English as a second language. The questionnaire was assessed using the Flesch-Kincaid readability index program to ensure the questionnaire was at an appropriate English literacy of seventh-grade level.

The framework of the questionnaire was based on the COM-B model of behavioral change. This model explains that capability, opportunity and motivation are key determinants of
engagement in health behaviors. The questions were designed by the research team which included RAC site staff who operated a falls prevention community of practice (CoP). The questions were based on other validated questionnaires, which investigated knowledge and attitudes about falls prevention including falls awareness in residential aged care settings, self-efficacy of nursing assistants regarding falls prevention and knowledge about falls prevention. The domains covered in the questionnaire were care staff’s perceptions about falls or near falls experience among the residents they cared for, translation of evidence based falls prevention strategies into practice during their rostered work shift, their previous experience of falls prevention training and the type of falls prevention training they would like to have in the future. Two open-ended questions asked care staff to list strategies they thought could help prevent residents they cared for from falling and briefly describe the actions they would take if a resident has fallen over during their shift. A final open ended question asked staff to provide any suggestions that would help to make the questionnaire easier for other care staff to answer. The questionnaire was then administered to five care staff at a RAC site separate to the site selected for the study using a “talk through” approach to validate the draft questions with care staff.

Procedure

The researchers attended a site staff meeting to provide information to staff about the study. Subsequently the questionnaire was stapled to the payslip of every care staff member and was advertised by the site managers using informative posters (researcher developed) attached to the announcement boards together with verbal reminders at staff meetings and handovers during each shift. Care staff consented to participate in the survey by completing the questionnaire, which contained a statement implying that submitting the questionnaire confirmed their consent to participate in the study. Completed questionnaires were placed in a sealed collection box in the staff room.
Statistical Analysis

All quantitative data were managed using IBM SPSS statistics for Windows (or mac) (SPSS 22). Quantitative data were summarized using descriptive statistics. Results were presented using frequency tables and percentages. All qualitative data obtained from open ended questions and verbal staff feedback were analyzed using content analysis. These data were entered verbatim onto a Microsoft Excel (2013) spreadsheet [Microsoft Corporation, Washington, USA] and coded using color highlights. Two researchers independently coded and grouped the data then met to discuss interpretation. Any disagreements were arbitrated by the third researcher. Responses were then organized using open coding, category creation and abstraction. Notes and headings were made in the text margins during reading to holistically describe the content. Multiple categories were generated from the headings copied onto coding sheets. These were then grouped under higher order headings to reduce the number of categories through the collapse of like and unlike categories. The abstraction process involved applying content-specific words to each category. WORDLE™ was also used to triangulate generation of researchers’ codes and categories in the open-ended questions. Subcategories with similarities were then described using a generic category and finally an overarching main category.
Results

Feasibility

There were 41 staff who were eligible to complete the survey with the response rate for survey completion by staff being n=24 (58.5%). Actions planned to improve the procedural feasibility of administering the questionnaire are presented in Table 1.33

Findings from the survey

There were 20.8% (5) male and 79.2% (19) female participants who completed the questionnaire with 54.1% (13) of them being over 50 years old. Education levels ranged from a university degree [n=2, (8.3%)], to 20.8% (5) finishing year 10. Twenty-two (91.6%) care staff had more than a year of experience working at a RAC site with 50.0% (12) of them working both morning and afternoon shifts. Eight (33.3%) care staff did not speak English as their first language but only 12.5% (3) reported that they experienced difficulty in writing English and only one participant reported difficulty in reading English.

Only 20 care staff (83.3%) responded to the open ended question which asked them to describe a fall. Thirteen subcategories were identified and described under four generic categories. The generic category describing a fall as unexpected in nature (n=18) was identified using words such as sudden loss of balance during ambulation due to slip and falls. Other categories identified were the presence of resident risk factors (n=5), consequences of falls (n=3) and landing at a lower level (n=5).

Care staff responses to closed-ended questions are presented in Tables 2 and 3.
Open responses listing falls prevention strategies suggested by 21 (87.5%) care staff and the actions care staff would take after a resident had fallen are presented in Table 4 and 5 respectively.

Twenty care staff identified at least one barrier to carrying out falls prevention strategies in their workplace. These were grouped into four generic categories: lack of manpower (n=10), lack of information (n=5), non-compliant residents (n=2) and unsafe environment (n=2).

Lack of manpower was explained as either time pressure to perform pre-existing duties (n=5) or a low staff to resident ratio (n=5).

While 18 (75.0%) care staff were aware of falls prevention plans for the residents they cared for, four (16.7%) were unsure if the residents they cared for had a falls prevention plan in place. When asked to describe the plan, 13 (54.2%) care staff responded but only 3 (12.5%) care staff identified more than three planned falls prevention strategies. Items sub-categories included assistance for mobility (n=3), having equipment such as sensor mats and alarm to prevent falls (n=3), the use of physical restraints (n=2), education to residents (n=2), medication (n=2) and the use of falls risk alert stickers (n=2).

Twenty (83.3%) care staff wanted reminders to carry out falls prevention strategies. A variety of reminders to action falls prevention strategies were requested by five (20.8%) care staff. Seventeen (70.8%) respondents stated a preference for posters displayed around the site, 54.2% (13) preferred a picture checklist in the resident’s file while 50.0% (12) expressed a preference for a written checklist in the resident’s file. Gaps in falls prevention training were identified in Table 2 and 3.
Discussion

This study provided some evidence that surveying care staff was a feasible means to evaluate their potential for behavior change around falls prevention. The response rate (58.8%) for this survey was within the acceptable range of survey response rates (30-60%) suggested in the literature, however modifications to the survey procedure and content were planned with the intent of improving future response rates. Researchers identified what actions the research team needed to take to potentially improve care staff participation in larger surveys of this kind and proposed actions that were framed around behavioral change techniques (BCTs) to address these. Behavioral change techniques are defined as “an active component of an intervention designed to change behavior.” Specific consideration was given to the feedback provided by care staff regarding their participation in the survey and completing the questionnaire. While it appeared feasible to survey care staff, several potential facilitators to recruitment and completion were identified. For future research, we recommend questionnaires be distributed by a registered nurse at shift handover following a verbal explanation of questionnaire purpose to provide a more personal approach for facilitating recruitment and completion. As the RAC organization’s expectation for completing questionnaires was during working hours, care staff found it challenging to prioritise the time to complete the questionnaire. Future participating RAC sites within the organization will be provided with suggested facilitators to maximise recruitment and response rate. Feedback from the staff who piloted the questionnaire included replacing words which were not easily comprehended and setting out the survey so it was more spacious and had larger tick boxes making it easier to complete as a paper copy. This feedback was incorporated into the final questionnaire design. (The finalized questionnaire can be provided as an online Appendix). A procedural guideline for administering the survey in future to other RAC sites was also developed (This can be provided as an online appendix).
Preliminary findings from this survey demonstrate that RAC care staff have low levels of capability (awareness and knowledge)\(^25\) regarding falls and falls prevention, which may be attributed to the lack of mandatory education on falls prevention during orientation training and ongoing education. Even though older people living in RAC settings have been shown to be at a high risk of falls,\(^3\),\(^4\),\(^6\),\(^35\) over 75% of the care staff surveyed reported that they were unsure or thought that the residents were at moderate or low risk of falls, and only 70% were aware that residents had a falls prevention plan in place. Half of the care staff who responded were not aware that 50% of residents in a RAC setting fall annually.\(^3\),\(^4\),\(^6\) Since care staff spend the most time with residents,\(^14\) a low awareness of falls risk could mean they may not interpret resident cues that should prompt initiation of relevant falls prevention strategies.\(^25\)

Most care staff who responded to the survey indicated they were motivated to implement fall prevention strategies in a RAC setting. However, despite high levels of motivation, low levels of knowledge about falls prevention may limit the ability of care staff to effectively translate evidence into practice. Less than half of the care staff were able to describe the strategies contained in the residents’ falls prevention plans. Concepts of health behavior change\(^24\) explain that capability, opportunity and motivation are all required for RAC care staff to engage in falls prevention strategies with the residents they care for. Sixteen care staff matched only one component of a standardized definition of a fall and only one care staff provided a definition that totally matched the standardized definition.\(^36\),\(^37\) This may result in falls being underreported as shown in other studies, with strategies not being implemented that could prevent further falls.\(^38\) Over 75% care staff suggested that extrinsic factors such as removing hazards could prevent falls, but only four respondents suggested that staff surveillance could be a useful falls prevention strategy.\(^1\),\(^39\) This may mean that care staff do not think that they should observe residents behavior, and report behavior which might
pertain to the adverse effects of medication or medical illness, such as drowsiness or loss of balance.

Care staff identified that a key barrier to effective falls prevention was the low ratio of care staff to residents which has been supported by previous research. This lack of manpower and time pressure described by the care staff could limit their opportunity to engage in falls prevention strategies. Care staff also identified that locum care staff may have limited awareness of residents’ capabilities which could increase the likelihood of falls in residents they provide care for. This finding was similar to that of Castle & Engberg (2007).

Since the main finding identified by the survey was a low level of care staff capability to provide effective falls prevention strategies, one solution could be to provide education and training. Further education and training could enhance care staff falls knowledge and skills to prevent falls from occurring, as only half of the care staff responded that they had received falls prevention training. The RAC site could benefit from using recent Australian training guidelines in designing care staff training to include education about falls and falls prevention. Since care staff have limited formal health care training they may be unaware of how to self-assess their knowledge levels and require skills checklists and further training.

These findings provide insight that gaps in care staff education and training exist, however the findings should be considered judiciously in view of the small sample size (n=24) and single RAC setting. Future research will benefit by administering this questionnaire across a large number of RAC sites, as this could be one of the ways to identify the types of education programs needed by care staff in order to improve translation of falls prevention strategies into practice. Administering this survey to a larger number of sites and participants would allow reliability and validity to be established. Since this is a new area in falls prevention
research, there is need for further exploration as care staff play such an important role in RAC settings.

Conclusion

This study established a feasible means of surveying staff about falls prevention within a RAC setting. These results may also be valuable to assist other RAC settings who wish to survey their own staff regarding falls prevention. Although care staff in RAC settings spend nearly half their time directly assisting residents, care staff surveyed were found to have low levels of knowledge about falls prevention and a low level of awareness about residents’ risk of falls. Improving care staff levels of knowledge (capability) in this area by providing education and training opportunities may be an important component in facilitating translation of falls prevention evidence into practice in a consistent manner across RAC settings. Future research should continue to assess care staff levels of knowledge, awareness, opportunity and motivation to undertake falls prevention action.


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APPENDIX I Questionnaire for care staff
This survey will assist us to find out more about falls prevention in residential aged care homes. Your responses will help to inform future training for staff in falls prevention.

This survey will take approximately 15 to 20 minutes. All responses are anonymous and confidential. We appreciate your time to complete this survey.

Section 1 – Your details

1. Please state your gender: (Please tick ☑ one)
   - ☐ Male
   - ☐ Female

2. Which age group describes you based on your last birthday? (Please tick ☑ one)
   - ☐ 18-19 years
   - ☐ 20-29 years
   - ☐ 30-39 years
   - ☐ 40-49 years
   - ☐ 50-59 years
   - ☐ 60-65 years

3. What is the highest level of learning you have done? (Please tick ☑ one)
   - ☐ Left school before Year 10
   - ☐ Completed Year 10
   - ☐ Completed Year 12
   - ☐ TAFE (Certificate I to IV) (Please specify: _________________________)
   - ☐ Graduate Certificate (Please specify: _________________________)
   - ☐ Graduate Diploma (Please specify: _________________________)
   - ☐ Bachelor degree (Please specify: _________________________)
   - ☐ Master degree (Please specify: _________________________)
   - ☐ Other and / or overseas (Please specify: _________________________)
4. How long have you worked as a carer for older people either at this organisation or somewhere else? (Please tick ☑ one)

☐ more than 3 months but less than 6 months
☐ 6-12 months
☐ 1-2 years
☐ 3-5 years
☐ 6-10 years
☐ more than 11 years

5. How long have you worked at this organisation? (Please tick ☑ one)

☐ less than 6 months
☐ 6-12 months
☐ 1-2 years
☐ 3-5 years
☐ 6-10 years
☐ more than 11 years

6. What level(s) of care are you involved in delivering for the residents? (Please tick ☑ all that apply)

☐ High level care
☐ Low level care
☐ Dementia specific care
☐ Unsure

7. What shift(s) do you work? (Please tick ☑ all that apply)

☐ Morning
☐ Afternoon
☐ Night

8. What language do you mainly speak at home? (Please tick ☑ one)

☐ English (please go to question 10)
☐ Other (Please specify: _______________________________________)
9. If you speak a language other than English, do you have any problem writing, reading or speaking in English? *(Please tick ☒ one)*

- ☐ Yes
- ☐ Reading
- ☐ No
- ☐ Writing
- ☐ Speaking

**Section 2 – This section asks for your feedback about falls or near falls and possible injuries that residents may experience**

10. How would you describe “a fall” in your own words?

________________________________________________________________
________________________________________________________________

11. Do you think resident’s falls can be prevented from happening? *(Please tick ☒ one)*

- ☐ Yes
- ☐ No
- ☐ Unsure

12. Have you done any training to help prevent falls in the past? *(Please tick ☒ one)*

- ☐ Yes
- ☐ No
- ☐ Unsure

13. If you answered “yes” in question 12, please tell us a little bit about the training.

________________________________________________________________
________________________________________________________________

14. List the things you think could help prevent residents from falling.

________________________________________________________________
________________________________________________________________
________________________________________________________________
15. List any things you think could prevent residents **injuring** themselves if they fall.

________________________________________________________________
________________________________________________________________
________________________________________________________________

16. When thinking of all the residents at your site (as a group), would you say they were: *(Please tick ☑ one)*

☐ At very high risk of falls
☐ At moderate risk of falls
☐ At low risk of falls
☐ Unsure

Section 3 – *This section asks about how you think about falls prevention when you are completing your shifts. Please read the following statements and rate your response.*

17. When working my rostered shift, I feel confident that I know what to do to prevent residents from falling. *(Please tick ☑ one)*

☐ Strongly agree
☐ Agree
☐ Undecided
☐ Disagree
☐ Strongly disagree

18. When working my rostered shift, I am keen to prevent residents from falling. *(Please tick ☑ one)*

☐ Strongly agree
☐ Agree
☐ Undecided
☐ Disagree
☐ Strongly disagree

19. When working my rostered shift, I am confident that I can complete actions that can prevent residents from falling. *(Please tick ☑ one)*

☐ Strongly agree
☐ Agree
☐ Undecided
☐ Disagree
☐ Strongly disagree

20. What percentage of older people do you think fall in residential aged care homes every year? *(Please tick ☑ one)*

☐ 10%
☐ 20%
☐ 50%
21. What would you do if a resident has fallen over during your shift? Briefly describe the actions you would take.
________________________________________________________________
________________________________________________________________
________________________________________________________________

22. Do you get any information at work on how to prevent residents from having a fall? (Please tick ☑ one)

☐ Yes ☐ No ☐ Unsure

23. Is there a falls prevention plan in the notes of the residents you are currently working with? (Please tick ☑ one)

☐ Yes (Answer Q. 24) ☐ No (Go to Q. 25) ☐ Unsure (Go to Q. 25)

24. If you answered Yes to the question 23, could you tell us a bit about the plan to help you stop residents you care for falling?
________________________________________________________________
________________________________________________________________
________________________________________________________________

25. Do you share information with other care staff at work about how to prevent falls for the residents you care for? (Please tick ☑ one)

☐ Yes ☐ No ☐ Unsure

26. I work as part of a team (nurses, manager, physiotherapist, other organisational staff at facility) to prevent falls in my workplace (Please tick ☑ one)

☐ Strongly agree ☐ Agree ☐ Undecided
☐ Disagree ☐ Strongly disagree

27. I think falls are a serious problem in residential aged care homes. (Please tick ☑ one)

☐ Strongly agree ☐ Agree ☐ Undecided
☐ Disagree ☐ Strongly disagree
28. I think falls are a serious problem across this organisation.
(Please tick ☑ one)

☐ Strongly agree  ☐ Agree  ☐ Undecided
☐ Disagree  ☐ Strongly disagree

Section 4 – This section asks you about how you think falls prevention training could be provided to care staff in this organisation

29. I think I have already had enough training about how to prevent falls.
(Please tick ☑ one)

☐ Strongly agree  ☐ Agree  ☐ Undecided
☐ Disagree  ☐ Strongly disagree

30. If the organisation gave care staff training on preventing falls in the future, would you like training to be: (Please tick ☑ one)

☐ E-learning (using a computer to watch, read and comment on falls and falls prevention)
☐ Watching a DVD on falls and falls prevention
☐ Attending an ‘In-service’ training session on falls and falls prevention including listening to a talk, watching some video clips and having a discussion

31. Where would you like to attend training on preventing falls? (Please tick ☑ one)

☐ Organisation’s central training centre
☐ Your facility
☐ No preference

32. Would you like reminders to help you know and use actions to prevent falls when you are at work? (Please tick ☑ one)

☐ Yes  ☐ No  ☐ Unsure

33. If you answered Yes to question 32, what type(s) of reminder would you like? (Please tick ☑ one)

☐ Written checklist in resident file
☐ Picture/photographic checklist in resident file
☐ Written checklist on the back of my name badge
☐ Posters around facility
34. What language(s) would you like the information on preventing falls to be available in? Please specify.

__________________________________________________________________________________________________________________________

35. What do you think could make it difficult to carry out falls prevention actions during your shift?

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

36. Please tell us anything else you think would help make this questionnaire easier for other care staff to answer.

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

Thank you so much for your help.
<table>
<thead>
<tr>
<th>Identified threats to questionnaire completion</th>
<th>What needs to change</th>
<th>Intervention functions</th>
<th>Behavioral Change Technique (BCT)*</th>
<th>Planned actions for future delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stapling questionnaire to staff payslips seen as impersonal approach with low value therefore staff more likely to disregard</td>
<td>Improve uptake of questionnaire by care staff</td>
<td>Persuasion</td>
<td>Credible source</td>
<td>Questionnaire to be distributed to care staff by registered nurse at shift handover following verbal explanation</td>
</tr>
<tr>
<td>Questionnaire displayed University logo, this was viewed by some staff as having limited relevance, providing information for the partnered University rather</td>
<td>Increase care staffs’ awareness of questionnaire informing their workplace</td>
<td>Education</td>
<td>Instruction on how to perform the behavior of questionnaire purpose and relevance to care staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Framing/reframing</td>
<td>RAC organisation logo to be added to questionnaire to connect study purpose to workplace</td>
</tr>
</tbody>
</table>
than informing their workplace

Placement of questionnaire collection box in the staff room was prone to being moved out of direct sight

Maintain visibility of collection box as a cue to prompt staff to return completed questionnaires

Environmental restructure

Re-structuring the physical environment to be placed at nursing station in full view of care staff attending shift handover

Care staff delayed completing questionnaire due to competing demands and consequently forgot about it

Remind care staff of the personal importance of prioritising participation

Environmental restructure

Adding objects to the environment Reminder posters reinforcing explanation of questionnaire purpose to be displayed in communal staff areas

Some professional nursing staff leading shift handovers forgot to discuss and

Provide a reminder to prompt discussion and Electronic ‘message of the day’ displayed on staff computer home screen to

Environmental restructure

Prompts and cues

Prompts and cues
distribute questionnaire to consenting care staff
distribution of questionnaire

Some care staff misinterpreted phrasing in questionnaire. For example “stop a fall” perceived as physically stopping a resident who is falling reaching a lower level. clarified question meaning by changing phrasing to be used to denote stopping a fall from happening.

Techniques from the coding manual of behavioural change techniques (adapted from Abraham and Michie, 2008)\(^\text{32}\)
Table 2: Care staff responses to questionnaire items regarding their levels of knowledge, awareness of residents’ falls risk and motivation to carry out falls prevention strategies

<table>
<thead>
<tr>
<th>Items</th>
<th>Questionnaire items’ descriptions</th>
<th>Response options n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Levels of knowledge</strong></td>
<td>Yes</td>
</tr>
<tr>
<td>1</td>
<td>Do you think residents’ falls can be prevented from happening?</td>
<td>17 (70.8)</td>
</tr>
<tr>
<td>2</td>
<td>*Is there a falls prevention plan in the notes of the residents you are currently working with?</td>
<td>18 (75.0)</td>
</tr>
<tr>
<td></td>
<td><strong>Awareness of residents’ falls risk</strong></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>When thinking of all residents at your site (as a group), would you say they were:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High risk</td>
<td>5 (20.8)</td>
</tr>
<tr>
<td></td>
<td>Moderate risk</td>
<td>12 (50.0)</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
<td>3 (12.5)</td>
</tr>
<tr>
<td></td>
<td>Unsure of resident’s risk</td>
<td>4 (16.7)</td>
</tr>
<tr>
<td></td>
<td><strong>Awareness of residents’ falls risks</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>What percentage of older people do you think fall in RAC homes every year?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>2 (8.3)</td>
</tr>
</tbody>
</table>
Training

5. Have you done any training to help prevent falls in the past?  
12 (50.0)    7 (29.2)    4 (16.7)

6. Do you get any information at work on how to prevent residents from having a fall?  
17 (70.8)    3 (12.5)    4 (16.7)

7. **Do you share information with other care staff at work about how to prevent falls for the residents you cared for?**  
18 (75.0)    1 (4.2)

8. If the organization gave care staff training on preventing falls in the future, would you like training to be:  
- E Learning    3 (12.5)  
- Watching DVD    1 (4.2)  
- In-service training    10 (41.7)  
- All    8 (33.3)

9. Would you like to attend training on preventing falls at:  
- Organization’s central training centre    11 (45.8)  
- On site    12 (50.0)
<table>
<thead>
<tr>
<th>Question</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you like reminders to help you know and use actions to prevent falls when you are at work?</td>
<td>20 (83.3)</td>
<td>3 (12.5)</td>
</tr>
</tbody>
</table>

*Questions requiring closed ended responses

*1 participant did not respond to the question

**2 participants responded not applicable, 3 participants did not provide any response to this question
Table 3: Care staff awareness, confidence and motivation regarding falls and falls prevention

<table>
<thead>
<tr>
<th>Items</th>
<th>Awareness of residents’ falls risk</th>
<th>SA (%)</th>
<th>A n(%)</th>
<th>U n(%)</th>
<th>D n(%)</th>
<th>SD n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I think falls are a serious problem in RAC homes.</td>
<td></td>
<td>13 (54.2)</td>
<td>9 (37.5)</td>
<td>1 (4.2)</td>
<td>1 (4.2)</td>
<td>0</td>
</tr>
<tr>
<td>2 I think falls are a serious problem across RAC organization.</td>
<td></td>
<td>12 (50.0)</td>
<td>7 (29.2)</td>
<td>4 (16.7)</td>
<td>1 (4.2)</td>
<td>0</td>
</tr>
<tr>
<td>Confidence to provide falls prevention strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 When working my rostered shift, I feel confident that I know what to do to prevent residents from falling.</td>
<td></td>
<td>10 (41.7)</td>
<td>12 (50.0)</td>
<td>1 (4.2)</td>
<td>1 (4.2)</td>
<td>0</td>
</tr>
<tr>
<td>4 When working my rostered shift, I am confident that I can complete actions that can prevent residents from falling.</td>
<td></td>
<td>10 (41.7)</td>
<td>12 (50.0)</td>
<td>1 (4.2)</td>
<td>1 (4.2)</td>
<td>0</td>
</tr>
<tr>
<td>Motivation to carry out falls prevention strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When working my rostered shift, I am keen to prevent residents from falling. 14 (58.3) 9 (37.5) 1 (4.2) 0 0

Perceptions about team and training

I work as part of a team to prevent falls in my work place. 10 (41.7) 8 (33.3) 3 (12.5) 1 (4.2) 0

I think I have already had enough training about how to prevent falls. 6 (25.0) 7 (29.2) 5 (20.8) 6 (25.0) 0

a Likert scale SA=strongly agree, A=agree, U=undecided, D=disagree, SD=strongly disagree
Table 4: Care staff responses to an open-ended question asking them to list strategies that could help to prevent residents from falling

<table>
<thead>
<tr>
<th>Number of response (Total responses, n=61)</th>
<th>Categories(^a)</th>
<th>Sub-categories</th>
<th>Response frequency n=xx (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Strategies targeting residents</td>
<td>Educate residents on falls prevention</td>
<td>5 (8.20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using physical restraint to prevent resident from falling</td>
<td>4 (6.55)</td>
</tr>
<tr>
<td>32</td>
<td>Strategies focusing on care staff’s responsibilities to prevent falls</td>
<td>Reassess resident’s mobility</td>
<td>12 (19.67)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selecting appropriate footwear and clothing for resident</td>
<td>10 (16.39)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff to provide surveillance on resident who requires supervision</td>
<td>4 (6.56)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff to review and understand the effect of medications taken by the residents they cared for</td>
<td>3 (4.92)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff to be aware of continence management issue in residents they cared for</td>
<td>1 (1.64)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff requires education on falls and falls risk of the residents they cared for</td>
<td>1 (1.64)</td>
</tr>
</tbody>
</table>
20 Environmental strategies to prevent falls in RAC

| Staff to reassure resident of available assistance for mobility and personal care | 1 (1.64) |
| Leaving call bell with resident | 5 (8.20) |
| Removing hazards around resident’s surrounding | 14 (22.95) |
| Provide better lighting for the resident to have a better view of where they are going | 1 (1.64) |

*The open-ended response is categorized into three categories namely resident, staff, and environment.*
Table 5: Care staff identification of actions they would take after a resident had fallen.

<table>
<thead>
<tr>
<th>Number of response (Total responses, n=71)</th>
<th>Categories&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Sub-categories</th>
<th>Response frequency n=xx (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Care staff’s actions after resident had a fall</td>
<td>Call nursing staff for assistance</td>
<td>21 (29.57)</td>
</tr>
<tr>
<td></td>
<td>Call for help (ie. other staff members)</td>
<td></td>
<td>4 (5.63)</td>
</tr>
<tr>
<td></td>
<td>Call ambulance immediately</td>
<td></td>
<td>3 (4.23)</td>
</tr>
<tr>
<td>4</td>
<td>Documenting falls in resident’s notes</td>
<td></td>
<td>4 (5.63)</td>
</tr>
<tr>
<td>14</td>
<td>Assessing resident post fall</td>
<td>Care staff assess severity of injury</td>
<td>10 (14.08)</td>
</tr>
<tr>
<td></td>
<td>Nursing staff to perform post falls assessments on resident</td>
<td></td>
<td>4 (5.63)</td>
</tr>
<tr>
<td>9</td>
<td>To ensure resident’s safety post fall</td>
<td>Use a hoist to lift resident back into chair or bed</td>
<td>3 (4.23)</td>
</tr>
<tr>
<td></td>
<td>Do not move the resident until otherwise authorized by nursing staff or physiotherapist</td>
<td></td>
<td>2 (2.82)</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Score</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ensure the surrounding environment is safe for the resident</td>
<td>2 (2.82)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Assess resident using CPR protocol (DRABCD)</td>
<td>2 (2.82)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Provide reassurance and comfort to resident post fall</td>
<td>16 (22.54)</td>
<td></td>
</tr>
</tbody>
</table>

*These categories are categorize under the staff domain.*