

Australian Home Care Workers' Learning of Safe Manual Handling: Environmental Considerations

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Abstract

How home care workers adapt what they learn in manual handling classroom training sessions to their workplaces (i.e., their clients' homes) is central to their own safety, as their musculoskeletal injuries continue to occur at unacceptably high rates. For this inquiry, new workers were directly observed in their workplaces following classroom training. Findings from these observations propose three environmental considerations for supporting new workers to learn safe manual handling techniques: (1) The physical setting for manual handling is important, (2) clients and their significant others may offer a valuable form of learning support, and (c) when initially learning the requirements for their roles, new workers should be encouraged to focus only on the manual handling tasks at hand.

Keywords

home care, workers, learning, manual handling, safety, environment

Introduction

This article reports and discusses findings from a study of how Australian home care workers transfer classroom- taught manual handling skills and knowledge to their work- places (i.e., their clients' homes). Like many of their international counterparts, these workers do not have the close support and guidance of more experienced workers, and are expected to carry out the (often novel and challenging) tasks that comprise this role in the privacy of their clients' homes. Therefore, understanding how home care workers effectively learn and adapt their brief classroom training sessions to their workplaces is critical for the quality of support they provide to their clients and also for their own safety. The focus for this article is to suggest environmental interventions to support learning in these circumstances. This effort is realized through, firstly, considering the nature of learning and enacting safe home care work in Australia and the existing manual handling training provisions for these workers. An explanation of the methodology and procedures undertaken for the study follows. Findings from the direct observation of home care workers are then provided and discussed in sections that distinguish the physical, social, and interpersonal aspects of the environments in which they were observed. The article then concludes with some suggestions for future research and how new home care workers may be supported to enact safe manual handling techniques in their clients' homes.

Learning and Working in Australian Home Care

The health and community services sector is Australia's fastest growing workforce sector, as the frail aged and people with disabilities are increasingly opting to remain in their own homes for care rather than move to residential care facilities.¹ In 2011, 87% of workers in community service occupations (including home care) were female, with an average age of 45 years.² These workers

are usually employed on a casual or part-time basis, work an average 29 hours per week,² and earn below the average Australian wage.³ So, the majority of home care is performed by female, middle-aged, low-paid workers.⁴⁻⁶

This work, consequently, is often subject to gendered discrimination,⁷ perceived simply as a mere extension of the nurturing skills of a mother,⁸ and based on the honorable ideals of family and love.^{9,10} Not surprising then are the high rates of musculoskeletal injuries (predominantly back injuries) associated with manual handling in the health and community services sector^{11,12} and, more specifically, concerns about the efficacy of manual handling training for care workers.^{9,13} Brief, classroom training sessions, which are a common method of conveying manual handling information to new workers, have been largely unsuccessful in reducing the unacceptably high rates of musculoskeletal injuries among these workers.^{11,14} Therefore, a key motivation in undertaking this study was to understand how best to support home care workers to learn and work safely in a workplace without direct supervision.

Classroom training in the Australian community services sector is typically held as part of a new worker's orientation to an organization. Training sessions are around 1 to 4 hours duration,^{15,16} vary in format, and are often competency-based, where skills are broken down into a series of measurable and observable steps.¹⁷ For this study, the classroom session observed was 1 hour in duration. The trainer, a physiotherapist, conveyed general principles for manual handling and body mechanics, encouraged trainees to apply these principles to several brief practical activities (e.g., pushing, bending, lifting), observed, and then signed them off as "competent" on a checklist at the conclusion of the session.

The notion of competency-based training in "caring" professions has been highly contended.^{17,18} In competency-based programs, staff may be deemed competent in manual handling after a single assessment in a spacious, unhurried, modern and fully equipped classroom, and are then required to transfer their learning to challenging environments in clients' homes (e.g., bulky furniture, pets, thick carpets, a non-height adjustable bed and severe time constraints, clients with varying levels and complexity of support requirements). Hence, it was considered important for this study that these environmental aspects, and their impact on the effectiveness of classroom manual handling training, be observed.

Method

This inquiry adopted a case study approach, which aims to facilitate understanding "real" problems, improve practices, and support or influence better decision making.¹⁹ The "case" was a home care organization whose staff provide a range of supports to clients, including manual handling activities such as people handling (e.g., showering, toileting), and non-people handling (e.g., shopping, housekeeping). Seven informants were recruited for the study, comprising two males and five females varying in age, cultural background, and previous life experience, thereby reflecting the composition of the Australian home care workforce.^{4,6} For the purposes of confidentiality and de-identification, all informants (and the organization) were assigned pseudonyms.

Qualitative data were obtained in the form of direct observations that aimed to capture ways in which new workers were transferring their classroom training. The observations were conducted with the researcher as a participant-observer.²⁰ Given the intimacy of clients' private homes, informants were aware that they were being observed; however, they were unaware of the details of the observation. This type of observation was considered appropriate because it has been previously successful in everyday settings,²⁰ and, by working alongside the informants, they may have been less inclined to display their "best behavior." Indeed, it appeared that informants were relaxed and comfortable during the observation.

The data were collected from each of the seven informants at two points (i.e., at 4 and 12 weeks after classroom training). Informants were observed performing two manual handling tasks: (1) pushing a client in the wheelchair, and (2) hoist transfer of a client from the bed to the wheelchair. These tasks were observed against four pre-determined criteria that were deemed to underpin successful manual handling: (1) planning and preparing for the task; (2) maintaining a wide base of support; (3) using the pelvis to power the movement rather than overworking the back, legs, or shoulders; and (4) recruiting core strength to support the lower back throughout tasks.²¹ These steps formed the basis of the observation checklists used by the researcher for directly observing and recording the manual handling practices of informants in the study.

Besides these aforementioned steps, the physical and social environment, and the nature of interpersonal interaction between the client, worker and any others present in the client's home were also observed. These categories were pre-determined in light of findings from a study of nursing home work in Australia,²² which suggested that environmental considerations such as physical space, work pace, and social ambience contributed to the safety and well-being of residents and staff. There were no pre-conceived ideas about what constituted a "good" environment for home care; the aim here was simply to observe and capture information.

The data were analyzed using inductive reasoning principles, with segments of information identified in relation to pre-determined categories.²³ Ultimately, data analysis aimed to determine whether home care workers were applying their classroom-taught manual handling techniques, understand the environmental influences at play, and propose suggestions for better supporting these workers to learn and enact safe home care.

Study limitations were considered prior to conducting the observations. These limitations include the small number of informants recruited, the selection of only one home care provider as "representative" of others in Australia, and the analysis of qualitative data. To mitigate these limitations, research was conducted by one researcher only, with approaches to make it systematic and valid (e.g., standardized checklists). Data have been stored in a well-organized and retrievable form, for access by other researchers if required. An additional researcher was engaged to independently analyze all data as an inter-rater reliability strategy. So, data collected were rich, comprehensive, reliable, and analyzed with certainty. The site for study was selected as a case because its features were representative of many home care providers in Australia in terms of manual handling tasks, and training programs offered. By making these features explicit, along with providing clear guides for data collection, it is hoped that this study may be easily replicated.

Ethical clearance was granted prior to conducting the research. Information packages were provided, and consent was obtained from both informants and their clients prior to collecting data for the study.

Findings

A presentation of the findings from these observation check- lists at 4 and 12 weeks can be found in Tables 1, 2 and 3. First, in Tables 1 and 2, a summary of findings from direct observations at 4 and 12 weeks is presented. In the first columns, the physical environment is assessed in terms of space, equipment available for use, access to written resources, other artifacts (e.g., obstacles) that may have an impact on manual handling task performance, worker position when engaging with the client, and the pace at which the work proceeds. The second columns describe the social environment in terms of the people in the client's home at the time of observation and their personal histories of engagement with the client. In the third columns, the nature of the interpersonal interactions and conversations that took place during the observation is noted, in relation to who initiated the conversations, how they progressed, and how the manual handling tasks were incorporated into these interactions. The fourth columns indicate the competency of each informant, with the pre-determined criteria for successful manual handling performance marked with either a tick or a cross to indicate whether or not they were observed. In the last columns, any additional comments deemed pertinent at the time of observation are made.

Then, in Table 3, a comparison of these findings, along with comments about the overall progression of the informants' learning is provided. The first column indicates, with a tick or a cross, whether each informant met the pre- determined observable manual handling criteria at 4 weeks post-initial classroom training. The second column indicates whether the informants met the same criteria at 12 weeks, and the last column provides a description of how the learning of each informant progressed over the 12-week period.

Table 1. Summary of Findings From Direct Observation Checklists: 4 Weeks Post-Training.

	Physical	Social	Interpersonal	Skills competency	Additional notes
Joe	Spacious, maintained; leisurely pace	Young client + “hovering” father	Non-verbal client; work-related interaction initiated by the worker	X	Worker approaches manual tasks confidently, despite constant input from father. Uses upper body instead of pelvis.
Di	Confined, obstacles, poor ventilation; slow measured pace	Elderly client, no others present	Work-related interaction initiated by the client	✓	Worker appears quite wooden and emotionless in approach; however, performs all tasks very well in a challenging physical environment.
Jen	Spacious, custom-built; efficient, measured pace	Client + others present in other areas of home	Professional, step-by-step, work-related interaction, initiated by the client	✓	Professional client who is very safety conscious and ensures worker follows rules for safe manual handling. Worker appears highly skilled and competent.
Meg	Spacious, accessible, maintained; very measured, step-by-step pace	Client with physical disability, no others present	Work-related, single-word prompts	✓	Manual tasks proceed in a very clinical manner. Client and worker appear to work very well together and enjoy their professional relationship.
Bree	Confined, obstacles; frantic, rushed pace characterized by excessive, uneconomical movements	Young client + “overbearing” mother	Non-verbal client, interaction initiated by the worker or client’s mother. Conversation personal, not work-related at all	X	Poor preparation, very disorganized. Curved spine, locked knees and hips throughout the task. Worker seems more concerned with performing tasks to mother’s standards and not concerned for her own safety.
Rick	Adequate space and equipment; medium pace	Client with physical disability, lives alone	Work-related, initiated by dictatorial client	X	Worker uses upper body for tasks, doesn’t hold loads close to body; posture appears confident, however. Seems to genuinely enjoy the work.
Kate	Same workplace and client as Bree	Same workplace and client as Bree	Same workplace and client as Bree	X	Very disorganized. Relaxed body position; however, hips are locked throughout task and posture appears weak. Worker doesn’t seem to be thinking about own safety, more concerned with handling the very fragile client safely and following the mother’s instructions.

Table 2. Summary of Findings From Direct Observation Checklists: 12 Weeks Post-Training.

	Physical	Social	Interpersonal	Skills competency	Additional notes
Joe	Spacious, maintained; leisurely pace	Young client; father “hovers” less this time	Non-verbal client; a mix of work and personal interaction initiated by worker; good rapport	X	Still uses upper body instead of pelvis, locked knees. Worker appears more relaxed this observation, less step-by-step explanation of tasks, the work appears to flow smoothly Enlists help of the client with tasks, who responds well, that is, work is less physical for the worker.
Di	Confined, obstacles, poor ventilation; slow measured pace	Elderly client, no others present	Mostly work-related interaction initiated by the client, although some social/personal discussion	✓	Worker has modified environment for manual handling—removed dogs from room. Relationship between the client and worker still very professional; however, client appears more relaxed and trusting of worker.
Jen	Spacious, custom-built; efficient, measured pace	Client + others present in other areas of home	Professional, step-by-step, work-related interaction, initiated by client	✓	Highly competent worker, almost “text book” manual handling observed. Still task focused on the request of the client.
Meg	Spacious, accessible, almost hospital-like environment; very measured, step-by-step pace	Client with physical disability, no others present	Work-related, single-word prompts	✓	An extremely clinical style of support, seems in some ways like the modern (i.e., patient centered) nurse-patient relationship.
Bree	Confined, obstacles; frantic, rushed pace characterized by excessive, uneconomical movements	Young client, mother “hovering” less this time, although still providing directions for all support	Non-verbal client; interaction initiated by the worker who engages with the client in almost “sisterly” fashion	X	Uses lower back, strain heard in worker’s voice throughout tasks. Relaxed, “home-like” environment, although high risk in terms of workplace health and safety—obstacles, etc.
Rick	Adequate space and equipment; medium pace	Client with physical disability, lives alone	Work-related; the client appears tense, controlling, inflexible	X	Worker much more stable this time, wearing sturdy footwear. Flexes knees but not hips. Overworks shoulders, arms, and upper body. Still manages to present a relaxed demeanor in an otherwise very tense environment.
Kate	Same workplace and client as Bree	Same workplace and client as Bree	Same workplace and client as Bree	X	No progression or improvement noted. Still launching into tasks without considering own health and safety. Poor posture, spine curved, moving upper body over a still pelvis. Seems happy and relaxed in role, however.

Table 3. Comparison of Findings From Direct Observation Checklists: 4 and 12 Weeks Post-Training.

	Skills competency at 4 weeks	Skills competency at 12 weeks	Overall progression
Joe	X	X	No marked change in observable manual handling criteria over 12 weeks; however, increased confidence was noted in the worker, and this was reflected by client's father's behavior, who interrupted the support routine far less at 12 weeks. Easier rapport with client observed, and in view of this, was happier, more willing to assist with his support, resulting in fewer physical manual handling tasks for the worker. Worker did not appear to be focusing on the tasks at hand, but rather incorporating them into a very relaxed support routine.
Di	✓	✓	Excellent manual handling skills noted at both points over 12 weeks, carried out in a challenging physical environment (e.g., obstacles, poor ventilation, etc.). Client very directive of support at 4 weeks; however, at 12 weeks seemed more trusting of the worker and allowed the support to flow. At 12 weeks, worker had identified a potential hazard (i.e., two small dogs) and confined them during manual tasks that may indicate a concern for workplace health and safety, and a more even distribution of power in the client-worker relationship.
Jen	✓	✓	Highly competent worker noted at both points over 12 weeks. At both points very focused in breaking the manual tasks down in to steps; however, this was at the insistence of client. Client very safety conscious and mindful of worker following rules for manual handling.
Meg	✓	✓	Highly competent worker noted at both points over 12 weeks. Very clinical style, task-oriented type of support, directed by client and willingly carried out by worker. Almost hospital-style environment and nurse-patient relationship observed.
Bree	X	X	No improvement observed at all over 12 weeks. Disorganized worker, used lower back to power manual tasks. Appeared confident and relaxed however, despite working with a very challenging client (verbally aggressive, dictatorial).
Rick	X	X	Poor manual handling techniques observed at both points, although appeared more stable and balanced at 12 weeks, and observed to be wearing appropriate footwear. Disorganized, uneconomical with movement, more concerned with handling the client safely and following client's mother's instructions than own health and safety.
Kate	X	X	Remained very disorganized and used poor working postures for manual tasks at both points of observation. However, at 12 weeks was noted to have slightly more relaxed knees and to be powering movements through the pelvis rather than overworking the upper body.

Discussion

Findings presented in these tables demonstrate varied manual handling skills among the informants and suggest that besides some minor improvements, their skills showed no significant improvement over the 12-week period. Data suggest three factors that may influence how home care workers enact safe manual handling in clients' homes: (1) good manual handling techniques may depend largely on the state of the physical environment in which they are conducted, (2) a client and/or family member who themselves understand the manual handling requirements for workers may be better able to support their workers to enact safe techniques on them, and (3) in the early stages of learning manual handling tasks for home care work, it may be advantageous for workers to ensure that interpersonal interactions are largely related to the tasks being undertaken at the time. These propositions will now be briefly discussed.

The Physical Setting for Manual Handling

The provision of high-quality home care cannot be limited to the mere acquisition of skills by care workers: it also requires adapting the context of care to suit the needs and preferences of both clients and caregivers.²² Lack of space, equipment, and time constraints have long been acknowledged as risks to working safely in health and community services,^{11,24} and similarly, many studies have made specific recommendations for modifications to the physical environment such as installing appropriate equipment, room redesign, and heating and ventilation adjustments.^{25,26}

Informants of this study were observed to be working safely in diverse physical settings. For example, Jen and Meg were observed to be enacting safe manual handling techniques in their spacious, almost hospital-like workplaces. Yet, in Di's cluttered, confined work space, she, too, was observed to be competent in manual handling, having modified her own physical environment (i.e., removed obstacles, confined pets) to enable safe techniques.

Consequently, when training new workers in the home care role, it may be beneficial to emphasize the importance of creating an uncomplicated physical work setting. In this way, learning may be better supported by focusing on doing, rather than thinking and reflecting.²⁷ In sum, training content for new home care workers should introduce and reiterate the importance of modifying the physical environment (e.g., space, flooring, obstacles, ventilation, equipment, pace of work), to create the most uncomplicated space possible, when learning and enacting safe manual handling techniques.

Social Influences: Clients and Their Family Members

A workplace that is client-centred may also facilitate transfer of skills from the classroom to the care situation. Although the health and community services sector is an established advocate of the client-centered approach to care, ^{28,29} the question is whether a balance can be struck between competing responsibilities, that is, between providing home care that encourages clients to lead the lifestyle of their choice, and observing organizational protocols.

An example of such competing responsibilities can be seen in the observations of informants Bree and Kate. These informants met none of the prescribed criteria for safe manual handling (i.e., inadequate task preparation, unstable body position, movements not initiated from pelvis, no core strength). It is possible that these workers may have been influenced by the client's overbearing

family member, compounded by a lack of direction from their non-verbal client. However, examples where client-directed support may have a positive influence on learning can be seen in the observations of Di, Jen, and Meg. They were observed to be meeting all criteria (i.e., good task preparation, balanced position, pelvic power, core strength) for safe manual handling and, at the same time, were being directed by clients who were noted to be assertive and accustomed to the care tasks. Consequently, it may be useful to consider encouraging clients and their significant others to attend and actively participate in manual handling training. In this way, they may provide a form of learning support for new workers who are enacting manual handling techniques in the absence of guidance from “experts” such as more experienced co-workers or supervisors.

Interpersonal Considerations: Focusing on the Manual Handling Tasks at Hand

The step-by-step approach to performing manual tasks, with interpersonal communication between the worker and client limited to the tasks being performed, may also have affected how these workers learned and enacted safe manual handling practice. For example, Joe was observed to be reasonably skilled in transferring the client from the bed to the wheel- chair and was noted at the same time to be verbalizing each of the steps to the client as this task was performed. Jen and Meg, who were prompted by their clients at regular intervals throughout the tasks, were also observed to be highly competent in manual handling.

In educational learning theory, this type of skills enactment represents instances of first-order procedures,^{30,31} that is, actions used to achieve specific goals or tasks. For example, changing gears in a car, hammering a nail,³² and pushing a wheelchair are all tasks that may be performed by workers without the need for conscious thought. As these procedural techniques become well practiced, the aim is for workers to compile this knowledge and skill into second- and third- (i.e., higher) order procedures that no longer require the conscious retrieval of conceptual knowledge.³⁰ For example, learning to hoist a client may at first require a series of conscious, practiced movements (e.g., place sling under client, move hoist into position, attach sling to hoist, raise bar of hoist slightly to check sling under tension, etc.). As these movements become automated, workers may rely less on their conscious effort and be able to perform other tasks concurrently, such as communicate with the client on an unrelated topic. This sequence for compiling procedures (i.e., consolidating first, then second, then higher order knowledge and skills) may better assist workers to respond to new situations as they arise in workplaces^{31,33} and is especially relevant to home care workers as they potentially face non-routine tasks and problems in clients’ homes (e.g., client fall, seizure during transfer) without the close support and guidance of more experienced workers. It follows then, that new home care workers should be encouraged and supported to focus on a step-by-step approach to learning manual handling techniques when starting out in their role, keeping their interpersonal communications with their clients during tasks to a minimum.

Suggestions for Future Research

It is difficult to ascertain whether the home care environment alone determined the effectiveness of classroom manual handling training or whether there are other aspects worthy of consideration, such as the personal dispositions of the learner, and the degree of organizational support provided after classroom training. Therefore, further research in these areas is recommended. Moreover, observing the same informant enacting manual handling techniques across different home care settings may have provided more comprehensive data on the influence of the environment in these

situations. Finally, as the Australian home care workforce is increasing, more comprehensive profiling of these workers as learners is needed. A significant effort needs to be invested into providing appropriate job preparation, continuing education and training that will prepare home care workers to meet the challenges associated with learning and working safely in the relative privacy of people's homes.

Conclusion

In summary, environmental aspects, such as space, obstacles, equipment, and the pace at which the work proceeded, appeared to affect home care workers' proficiency in performing manual handling tasks. These same tasks were, for the most part, performed more competently on clients who understood their various requirements, provided direction to their workers, and kept their interpersonal interactions with these workers strictly limited to tasks being undertaken at the time. Recommendations for manual handling training from this study include emphasizing the importance of modifying the physical environment for safe techniques, encouraging clients and their significant others to attend and actively participate in training, and supporting new workers to keep their interpersonal communications to a minimum and focus on learning the step-by-step "basics" of manual handling tasks in the initial stages of their role. In conclusion, careful consideration of these environmental factors may better support home care workers to learn in the absence of expert guidance.

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