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Review

Safety risks associated with physical interactions between patients and caregivers during treatment and care delivery in Home Care settings: A systematic review

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ABSTRACT

Objectives: To explore the safety risks associated with physical interactions between patients and caregivers during treatment and care delivery in Home Care settings.
Design: Seven-stage framework from the PRISMA statement for research question, eligibility (definition), search, identification of relevant papers from title and abstract, selection and retrieval of papers, appraisal and synthesis.
Data sources: British Nursing Index (BNI), Allied and Complementary Medicine Database (AMED), Applied Social Sciences Index and Abstracts (ASSIA), Cinahl, Cochrane Library, Embase, Ergonomics Abstracts, Health Business Elite, Health Management Information Consortium (HMIC), Medline, PsycInfo, Scopus, Social Care online, Social Science Citation Index.
Review methods: The included references ($n = 42$) were critically appraised using a modified version of Downs and Black checklist and the Mixed Methods Appraisal Tool.
Results: The risk factors are reported using the modified model of human factors of health care in the home to represent the roles of both patients and caregivers in the system. The results are grouped as environment (health policy, physical and social), artefacts (equipment and technology), tasks (procedures and work schedules) and care recipient/provider. These include permanent and temporary building design and access, communication and lone working, provision of equipment and consumables, and clinical tasks. The topics with strong evidence from at least 2 papers relate to risks associated with awkward working positions, social environment issues (additional tasks and distractions), abuse and violence, inadequate team (peer) support, problems with workload planning, needle stick injuries and physical workload (moving and handling patients).
Conclusions: As home care increases, there is a need to ensure the safety of both patients and caregivers with an understanding of the physical interactions and tasks to manage safety risks and plan safer care delivery systems.

What is already known about the topic?

- Providing care and treatment at a patient's home presents risks to both caregivers and patients whether care is delivered from one or multiple organisation(s).

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- There are different models of home care, including the hospital in the home, patient-centred medical home, home first policies and ageing-in-place.
- Care tasks are categorised as basic care, including personal hygiene, mobilisation, nutrition and social company, and advanced care, including medication administration, tube feeding, and operating home care technology (e.g. ventilator, electric wheelchair).

What this paper adds

- Risk factors for the environment of care are associated with health policies, physical location and social environment.
- The risks include permanent and temporary building design and access, communication and lone working, provision of equipment and consumables and clinical tasks.
- As home care increases, there is a need to ensure the safety of both patients and caregivers with an understanding of the physical interactions and tasks to manage risks and plan safer care delivery systems.

1. Introduction

'*A person's home is not just the place where they live, but also a place of work for home care workers*' (Taylor and Donnelly, 2006). Planning and policy makers, guided by both patient (care recipient) preference for care and treatment in their own home and cost-containment pressures, have been increasingly focussing on community care (Craven et al., 2012; EU-OSHA, 2014). Initiatives have been implemented since the 1960s as deinstitutionalization, community care, continuous care, integrated care and home-based care (WHO, 2008). Home care aims to satisfy peoples' health and social needs in their homes by '*providing appropriate and high-quality home-based healthcare and social services, by formal and informal care-givers, with the use of technology when appropriate, within a balanced and affordable continuum of care*' (WHO, 2008). However the home setting presents challenges for the more established (acute) caregiver-patient interactions and requires adaptation of policies, protocols and routines (Duke et al., 2012; HSE, 2014).

The labelling of services as either social care or healthcare depends on the characteristics and boundaries of both systems and varies in different countries. In 2012 in England there were over 1.1 million people receiving care at home from approx. 1.8 million formal and 5 million informal caregivers (Department of Health, 2012). A study of elderly care in France (Davin et al., 2005) found that '*more than 1 million people aged 60 years and older need assistance from another person to perform at least one ADL* [activity of daily living] *(bathing, dressing, going to toilet, eating, transferring, getting outside) and about 2.5 million persons for at least one IADL* [instrumental activities of daily living] *(shopping, food preparation, housekeeping)*'. Care tasks have been categorised as basic and advanced, where basic care includes personal hygiene, mobilisation, nutrition and social company and advanced care has a more clinical focus including medication administration, tube feeding, and operating home care technology (ventilator, electric wheelchair, bed-lifts, oxygen devices) (EU-OSHA, 2014; Swedberg et al., 2013).

There are different models of home care, for example, hospital in the home (Duke et al., 2012), patient-centred medical home (Bitton et al., 2012), home first policies and ageing-in-place (Craven et al., 2012). One of the challenges to providing care and treatment at the patient's home is the safety and risk of injury to caregivers and patients when care is delivered by staff working alone (HSE, 2009) or as part of a team (Simon et al., 2008). This could be within one organisation (Markkanen et al., 2007), inter-agency working (Miller and Cameron, 2011) or student supervision (Leh, 2011).

This paper reports the method and results for a systematic literature review to consider caregiver and patient safety and injury risks associated with physical interactions during home care and treatment in the community. It includes a wide range of care procedures from treatment (e.g. palliative care) to daily living care (hygiene and mobility). The term 'patient' is used to refer to the care recipient.

2. Method

A seven-stage framework was used in line with the PRISMA statement (www.prisma-statement.org) for research question, eligibility (definition), search, identification of relevant papers from title and abstract, selection and retrieval of papers, appraisal and synthesis.

2.1. Research question

The question addressed in this review is 'What are the safety risks associated with physical interactions between patients and caregivers during treatment and care delivery in Home Care settings?'

2.2. Eligibility (inclusion/exclusion)

References were screened at the first stage by setting the database search parameters to all languages where the paper had an English abstract, (1980-), worldwide (region), adult (age range) and any study type.

2.3. Search

The complexity of the topic proved challenging for literature searching. The first stage was a scoping exercise to explore and test the literature available for the key concepts associated with the research question. This included defining caregivers, context and activities by examining terminology used in published literature (e.g. Craib et al., 2007) so could include formal caregivers, nurses, home care assistants, home care support workers, social care workers, medical social workers, district nurses, occupational therapists and physiotherapists. The types of activities included bathing, dressing wounds, activities of daily living, getting people in or out of bed, functional care, and physical care.