Home health aides’ experiences of their occupational health: a qualitative meta-synthesis

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Abstract

Background: The need for home care services is rapidly growing due to an increasing elderly population, earlier discharge from hospital and clients’ preference of being treated at home. While this need increases, there is high sickness absence among home health aides, and research show that home health aides have one of the highest probabilities of being granted a disability pension. A high prevalence of musculoskeletal disorders has been reported in occupations with physically demanding work, and this aspect is a major health problem among home health aides. Studies have shown that home health aides find their work stressful, physically demanding and exhausting. The objectives of this study were to summarise peer-reviewed literature on how home health aides experience their occupational health and conduct an ethnographic meta-synthesis with the aim of identifying and describing key concepts across studies.

Methods: A qualitative ethnographic meta-synthesis was used to develop new insights into home health aides’ occupational experiences. By using this method, we directed attention to the interpretation of studies, development of concepts and expansion and specification of theories that concern these concepts. The first author conducted searches in the electronic databases CINAHL, MEDLINE and PsycINFO.

Results: This meta-synthesis includes 27 articles. The review of these sources identified four key concepts as important to gain an understanding of occupational health among home health aides: exposure to physical demands, physical environmental factors, organisational conditions of employment and psychosocial working environment.

Conclusion: The findings in this synthesis are consistent with previous research showing that occupational health among home health aides is a complex phenomenon. Specifically, physical, psychosocial and psychological exposure aspects have potential negative and positive effects on home health aides’ occupational health. In order to increase employee’s well-being, create a healthier workplace that provides well-functioning and high-quality home care services and cope with future health challenges, more investigations into the organisation of home care are needed.
Keywords

Home health aides, home care service, occupational health,

Background

The need for home care services is rapidly growing due to the increasing elderly population [1], the development and emergence of medical equipment that allows more treatment in patient’s homes and the client’s preference of being treated at home [2–7]. While there is an increasing need for home health aides, sickness absence in home care services is high; in Norway, it is 11.61% [8]. Further, home care employees have one of the highest probabilities of being granted a disability pension [9]. In the 1990s, research described neck/shoulder pain and low back pain as major health problems associated with high sickness absence and disability pensions in the western world. Unfortunately, these circumstances are generally still present today [10]. Research has shown that home health aides experience high workloads, a high level of strain [11, 12] and find their work stressful, physically demanding and exhausting [13]. There has been a high prevalence of musculoskeletal disorders reported in occupations that involve physically demanding work. These issues are commonly reported as a major problem among health care workers [14]. Home health aides report frequent heavy lifting, forward bending and high frequencies of work-related musculoskeletal pain conditions and injuries [10].

Today, home care services are regarded as a potentially cost-effective way to maintain people’s independence, keep people physically, mentally and socially active as long as possible and enhance quality of life [11, 12]. Ganann et al. defined home care as ‘An array of services for people of all ages, provided in the home and community setting, that encompasses health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for family caregivers’ [15, p. 605]. Hence, home care services encompass a range of people who have a large variety of care needs [7].

The increasing need for home-based health care services in the western world has amplified the burden and stress among home health aides [12, 16–18]. Moreover, this trend is ongoing: there will be additional pressure in the decades to come because the number of older people will continue to increase, people are living longer lives and birth rates are
lower [17]. The quality of care will be the key to maintain and improve the quality of life for people in home care settings. Addressing the impacts of working conditions’ on occupational health among home health aides is imperative in order to ensure well-functioning, high-quality home care services and robustly cope with future health challenges in society [12, 16]. Therefore, it is relevant to shed light on home health aides’ perceptions, reflections and experiences of their occupational health in order to gain insight on their ‘lived world’. Based on the presented considerations, we investigated how home health aides experience their occupational health. The objective of this study was to summarise peer-reviewed literature on the topic and conduct an ethnographic meta-synthesis with the aim of identifying and describing key concepts across studies to gain a deeper understanding of home health aides’ occupational experiences.

Methods
We searched CINAHL, MEDLINE (OVID platform) and PsycINFO (OVID platform) to identify relevant research articles and studies between 2009 and 2019. The following criteria were used during the selection process:

Inclusion criteria:
1. Qualitative method; mixed-methods studies could be included if the qualitative part could be seen separated from the quantitative part of the study;
2. Studies written and published in English;
3. Peer-reviewed articles;
4. Articles that contain home health aides’ perspectives and personal experiences of occupational health related to working conditions;
5. Published between 2009 and 2019.

Exclusion criteria:
1. Reviews, books, reports and conference papers;
2. PhD and master’s theses; these were excluded due to uncertainties regarding the peer review process across different universities.
Search strategy

The first author conducted the literature search with two librarians at separate times to ensure that relevant databases and search words were used. This design thereby increased the validity of the study. To identify relevant articles, we conducted searches via subject-related wordlists in the databases, including synonyms. We supplemented the search with keywords we manually selected from article keywords or abstracts. After wide-ranging pilot searches, we used the keywords and combinations listed in Table 1 to cover the theme and search the databases.

A third combination of key words, namely ‘work’ or ‘workplace’ or ‘occupational’, is not explicit in the research question, but we included it in the search strategy because occupational health is considered to be related to the context of work. Given that subject-related wordlists differ from database to database, we adapted the search strategy for each term in the different databases. We used search techniques inspired by Booth [19] to identify relevant articles based on the theme.

Various searching techniques were used to find relevant articles based on the theme; MH describes the indexing term in Cinahl heading, TI and AB were used to limit the search to title or abstract finds terms in the title or abstract fields, truncation * search for the root of the word and where used to expand the search and retrieve various word endings. Exp (explode) expands the search to more specific related terms in the vocabulary’s hierarchy and indicates that subordinate terms have been included. Slash / indicates that the term is taken from the subject-related wordlist. The symbol Adj3 where used in Medline and PsycInfo and N3 in Cinahl to find terms and keywords where no more than three words appeared between the words (Booth, Sutton & Papaioannou, 2016)

Overview of the search strategy

We identified 345 studies in the first step of the search; we excluded 315 studies based on the exclusion criteria (Figure 1). The searches in all three databases were limited to English and a publication date between 2009 and 2019. The first author examined the abstracts to identify potentially relevant articles. We first searched CINAHL and therefore collected most of the articles (N = 17) there. We included seven articles from MEDLINE and one from PsycINFO. The first author conducted additional searches to read through the reference lists of the selected articles. This procedure followed the procedure described
above; we included two new articles during this process. Thus, we included 27 articles in this meta-synthesis (Table 2). A flow chart for the entire search process is shown in Figure 1.

**Evaluation of methodological quality**

We chose the Critical Appraisal Skills Program (CASP) as suitable for appraising the qualities of the included articles. CASP comprises a checklist with a series of 10 questions that must be answered with ‘yes’, ‘no’ or ‘can’t tell’, except the last question where the degree of usefulness needs to be assessed [20, 21]. The evaluation is shown in Table 3.

**Meta-synthesis**

We used the meta-ethnographic approach, developed by Noblit and Hare, to synthesise data from the included studies in the review [22]. We chose this method because it has an inductive approach that transcends differences in qualitative methodologies and has been used in other meta synthesis of qualitative health literature [23–25]. The analysis comprises three steps: first-order concepts, second order interpretations and third-order analyses:

1. Order concepts involve identification of relevant topics or concepts in each study.
2. Order interpretations explore the connections and differences between studies. One seeks to understand and transmit concepts, ideas and metaphors across studies. For a key concept to be included, at least four studies must be relevant to the concept [24, 25].
3. Order analyses involve a synthesis of key concepts towards a line of argument to build up a general interpretation based on the results from each study. The synthesis occurs through a process of reciprocal translation and is constant compared to concepts across studies [24, 25].

In the first and second steps, we checked potentially relevant key concepts that we identified against individual studies to maintain a close connection to the original studies. We analysed the relevant identified topics to explore differences and connections and to understand and transmit ideas and concepts across the studies.
The order interpretations are developed through building key concepts. We determined key concepts through analysis. For example, the key concept of ‘exposure to physical demands’ became relevant when at least four of the 27 included studies contained consequences of the work environment. See Table 4 for the first-order and key concepts. We did not use computer software in this process. The final step in the analysis includes a search for directly comparable findings and results that contribute to build up a line of argument for the key concepts. This argument touches on how and why the concepts are relevant. The final analysis is not a summary or collection of findings; rather, it is a re-interpretation of ‘key concepts’ according to how they relate to each other, on the main theme of the analysis and the purpose of the individual studies [24, 25].

Results
The main findings of the 27 included studies are summarised in Table 2.

Methodological quality
The assessment of individual studies based on CASP ranged from good to medium. A summary of the critical appraisal of the articles in this review is shown in Table 3.

Methodological approaches
The researchers used different qualitative research methods in their studies. The majority of studies (N = 9) used focus group interviews as the only method [26–34]. Seven studies used face-to-face interviews [35–41], while five studies used telephone interviews [42–46]. One study combined individual and telephone interviews [47]. Three studies combined focus groups and individual interviews [48–50]. Two studies combined observations and individual interviews [51, 52].

Participants
The total number of participants from the included studies is 1,380, including 602 females and 37 males. The remaining 639 participants were not specified by gender [26, 27, 30–32, 36, 39, 43–45, 51], but the majority of participants were reported as women, with a
percentage from 80 to 100 in all the included studies. The age of participants ranged from 18 to 73 years, and the average age was between 42 and 50.

**Study contexts**

Eighteen studies were from the United States [26–32, 35, 36, 41, 43–45, 47–51], four studies were from Canada [34, 40, 42, 46]), two were performed in Norway [39, 53]) and one each was from Denmark [52]), Ireland [33)) and Sweden [37]).

**Key concepts**

Home health aides elaborated on multiple occupational health risks and mediators related to work tasks, physical and psychological factors at work. These factors are presented below as the key concepts: *exposure to physical demands, physical environmental factors, organisational conditions of employment* and *psychosocial working environment*. Although the key concepts are presented separately, we recognise that these concepts influence each other. Table 4 presents a detailed overview of the subtopics that are included in the various key concepts. A summary of the synthesis follows.

**Exposure to physical demands**

Home health aides described setting aside their own health and safety needs to accomplish healthcare tasks [47, 50]. The informants expressed that their health had been impaired due to physically strenuous work situations and described experiences of health challenges related to musculoskeletal strain hazards, musculoskeletal system injury pain or disorders in the back, knee, neck or shoulders [28–32, 36, 39, 41, 45, 47–50]. One study reported that chronic pain and injuries in the lower back, shoulders, knees and neck resulted in surgery [36]. Strenuous work tasks included assisting clients with activities of daily living, performing housekeeping tasks or cleaning [26, 32, 35, 36, 42, 47], transferring, assisting, repositioning and turning clients [28, 32, 35, 36, 42, 47, 49] and other heavy lifting [28, 30, 35, 36, 45, 47, 49]. Several informants experienced being in danger through physical violence from clients with mental health issues, dementia or Alzheimer's disease [30, 32, 33, 35, 36, 40, 43–45]. The informants who had not been injured on the job reported that home care work had no
impact on their health and safety. Further, they indicated that work was good for their health because it kept them active and engaged [45]. Home health aides reported walking to and from patients’ homes [35, 47] and walking with the patients [47] as frequent physical activities performed during work. The informants expressed that it was their responsibility to maintain their own health, and staying in shape was important to avoid injuries.

**Physical working environment**

Several studies reported that home health aides provide care in an uncontrolled environment and are exposed to environmental hazards such as chemicals and drug residues from administering medication [35, 47–49], household infestations [30, 35, 47–49], poor air quality and secondary tobacco smoke from clients [29, 30, 35, 40, 47–49]. Home health aides experienced biological exposure [35, 47], which created awareness and concerns of exposure to clients sickness, bloodborne pathogens, potential infections and infestations or bed bugs and worries about transmission to themselves and their family [30, 35, 45, 48]. The studies described patients’ pets as unpredictable and dangerous distractions that created an unsafe or unhealthy working space [29, 30, 40, 45, 48, 49]. Rugs, cords, loose stairs, medical equipment and furniture, clutter, dark lights, objects on the floor and slippery floors where described as reasons for potential musculoskeletal injuries from slips, trips and falls [31, 32, 40, 45, 48, 49]. The informants also reported difficulties in the winter such as ice and snow, driving conditions, car accidents and falls outside of the home [34, 45, 48, 49].

The informants described a lack of required equipment at patients’ homes [26]. Equipment such as wheelchairs, walkers, canes and mechanical lifts could have been broken, missing parts or inappropriately sized for the clients, not fit the space or difficult to operate [28, 33, 34, 40, 49]. When assistive devices worked as required, several studies reported benefits due to increased use of safety equipment, tools and more ergonomic and injury-reducing postures at work [36, 39, 48].

**Organisational conditions of employment**

Home health aides experienced low wages [30, 41, 43, 44, 52] and not being reimbursed for mileage [43, 44]. Other organisational challenges resulted from tight budgets and restricted
hiring of stand-ins [39], lack of training, unclear expectations and inconsistent scheduling [43, 46].

The informants relayed that time pressure during hectic workdays was one of the most strenuous factor in home care work [26, 27, 33, 37, 39, 52, 53] and created negative emotions such as frustration, stress, fatigue or fear of making mistakes [27, 37, 52, 53]. Stress in home care work created mental strain and lead to multitasking, lack of focus, rushing and moving too fast and increased the risk and fear of falling and injuries [28, 31]. Skipping lunch and cutting down on the time spent on assignments in order to get through the work list on time were some of the negative trends towards increasingly hectic work situations [37, 53].

The informants described increased indirect work tasks—for instance paperwork—as endeavours that did not directly involve patient care but increased the time pressure and workload, were difficult to complete during paid work hours and were a source of overtime hours [34, 47, 51, 53]. Home health aides indicated that excessive sick leave from others created strain and pressure [39] and required them to take on extra responsibilities, perform extra tasks beyond the work schedule and work unpaid hours to fill care gaps and to meet the client’s needs [26, 27, 32]. The informants reported that they kept working despite health problems because they could not afford to be absent, even if working could lead to long-term health consequences as psychological stress and burnout [30, 31].

**Psychosocial working environment**

Home health aides experienced verbal abuse from clients with mental health issues or Alzheimer’s disease [30, 32, 33, 35, 36, 40, 43–45]. In several studies, home health aides reported experiences of lack of respect for their professional expertise, lack of appreciation, lack of positive feedback and insufficient support from agency supervisors [26, 30, 34, 43–45]. The informants described the lack of support as stressors [30], negative experiences, such as no staff meetings and supervisors who were never available [34], and feelings of being invisible [37]. The home health aides felt like they were viewed as low-skilled employees rather than essential members of the care team; they were often sent to a new case with little to no information about the patient’s health or home environment. This
phenomenon created stress related to work conditions [26, 30]. The informants did not always want to report their own falls and were concerned about not reporting patient care issues due to fears that their supervisors could reduce their hours or remove them from a case [26].

The informants described that home health aides developed meaningful, trusting relationships and close bonds with clients and their families. These bonds were a major reason to continue the job [26, 34, 36, 37, 46, 48]. The informants emphasised the importance of seeing that they made difference in peoples’ lives, the positive impact that helping had on their lives [44, 52] and client’s and/or the client’s family’s appreciation had positive mental health effects [30, 33, 37, 41, 44, 48, 52]. In several studies, the home health aides indicated that their close relationships with clients contributed to emotional stressors, emotional drain and grief because they became very attached to clients who were ill, sad or died [30, 33, 36, 41, 43–45]. This phenomenon could lead to increased physical injuries and psychosocial strain [48]. Several studies reported that clients’ families could interrupt the work routine and be a source of psychosocial stress [30, 31], and the informants reported that it was challenging to maintain boundaries related to assigned hours and job duties, especially as their relationship with the client or the client’s family became closer [36, 48].

Several studies described that home health aides felt isolated and lonely at work because they had little to no contact with other members of the home care services [26, 32, 34, 36, 37, 41, 51]. This factor contributed to isolation from conventional personal support and the development of emotional stress [32, 36]. Despite the fact that several home health aides reported social isolation and a lack of support from their supervisors, the informants emphasised the importance of home care as a profession. They viewed the value of their work as related to other care options and recognised themselves as professionals [32].

Indeed, several studies described that home health aides were often happy, found their job satisfying, enjoyed most aspects of the work and looked forward to going to work [39, 44, 52]. The variety of patients necessitated a diversity of skills, a factor that the home health aides viewed as motivating to remain in home care [34]. Home health aides accepted a lack of control and shared control over their environment with clients [27, 42]. Some felt a greater sense of autonomy and control at work and increased satisfaction when they gained responsibility for transferred tasks [42]. Despite tight schedules, home health aides expressed that they took the needed time to listen to the patient [52]. The informants
reported job flexibility as a positive and rewarding factor to choose a home care job because it allowed them to meet the client needs as well as their own personal requirements or family responsibilities [34, 48, 52].

Discussion
The purpose of this meta-synthesis was to gain an understanding of how home health aides experience their occupational health. The majority of the participants in this study were women—80–100% of the informants in the included studies. This finding is consistent with current research, which has shown a similar pattern across Europe, namely that home care is mainly provided by women [12]. To explore the consequences of specific work environments on employee well-being and employee performance, this discussion is inspired by the job demands-resources (JD-R) model [54]. The JD-R model is currently the most popular framework in occupational health psychology; it investigates the relationships between job characteristics and employee well-being, classified as either job demands or job resources [54]. The discussion is structured after the job demands/resources; physical, psychological and social and organisational aspects of work [54].

Physical aspects of home care work
Several studies in this synthesis found that home health aides described their health as impaired due to physical strenuous works situations [28–32, 36, 39, 41, 45, 47–50]. These findings are consistent with the results from other studies that showed musculoskeletal pain and injuries in the neck/shoulder and lower back are commonly expressed and a major health problem among home health aides [10–13]. Previous studies have also shown that assisting clients with physical tasks ranging from lifting to bathing to household chores are physically demanding [55]. Further, frequent heavy lifting can lead to musculoskeletal pain and injuries [10]. In this regard, physical home care tasks are being performed at the expense of home health aide employees’ health [47]. This synthesis revealed that several informants experienced being in danger due to physical violence [30, 32, 33, 35, 36, 40, 43–45]. These findings are also consistent with previous research that demonstrated violence from patients is significantly higher in home care services, where care personnel usually work alone, compared to other helping professions [56, 57].
Home health aides provide care in an uncontrolled environment, a factor that can create an unsafe and unhealthy working space both inside [29–32, 35, 40, 45, 47–49] and outside [34, 45, 48, 49] the home. This finding is consistent with previous studies [58–60] that reported home health aides are exposed to a myriad of safety hazards when visiting patients’ homes. This exposure can result in injuries and loss of work time. In this regard, Lavender and Polivka [60] implemented a home healthcare virtual simulation training system to train home health aides to detect and respond to hazards they encounter in patient homes. Their findings showed that training activities can significantly impact the ability to correctly identify hazards, and home health aides indicated an increased awareness of biological, chemical and environmental hazards after completing the training. Even though the informants gained more knowledge about home hazards, they still described the work as challenging and problematic [60].

The heavy workload and exposures from physical work tasks and physical work environmental factors can be described as job demands in the J-DR model; the workers sustain physical efforts that are associated with physiological costs [54]. The central pathogenic health indicator within the JD-R model is burnout, which is most often operationalised as exhaustion, described as a consequence of extended exposure to specific job demands like intense physical strain. Therefore, a physical, heavy workload in home care can contribute to increase the risk for burnout and lead to negative outcomes, such as health complaints or turnover intentions [54].

In contrast, home health aides who had not been injured experienced that home care work did not impact on their health and safety. Further, they reported that work was good for their health because it kept them active and engaged [45]. On the other hand, the participants emphasised that staying in shape was important to avoid injuries and expressed that it was their own responsibility to maintain health [45]. Previous research found that muscular fitness has the highest predictive value for work ability among women performing physically demanding home care work [61]. The findings showed that decreasing work ability are associated with poor balance, poor upper and lower extremity endurance and poor or average trunk flexibility. Based on the physical demands of home care work, these musculoskeletal components are considered key factors of work-related fitness in home care work [61]. In this regard, home health aides reported walking to and from patients’ homes [35, 47] and walking with the patients [47] as frequently physical activities.
performed at work. Therefore, if these work tasks contribute to the home health aides’ fitness, they can be considered beneficial for their occupational health. However, the actual level and results from walking are unknown and may not be sufficient to have a real impact. According to the JD-R model—and in contrast to job demands—for some home health aides, home care work can be a physical job resource because the physical work tasks may help them achieve work goals, reduce job demands and stimulate personal growth and development [54].

**Psychological and social aspects in work environment**

The findings from several studies have shown that home health aides experience demands in the social aspects of a job that require mental effort and are therefore associated with certain psychological costs [54]. For example, several informants experienced verbal abuse [30, 32, 33, 35, 36, 40, 43–45]. These findings are similar to other research [56, 57, 62] that reported home health aides’ experiences of verbal abuse can lead to poorer mental and physical health outcomes, including stress, depression, flashbacks, sleeplessness, traumatic stress disorder and emotional exhaustion [62]. With regard to the JD-R model, verbal abuse from clients can be considered constraints or barriers against work performance and occupational health among home health aides [54]. There are several psychological aspects in the work environment that represent high work demands and may hinder home health aides’ personal growth. The experiences of being isolated and lonely at work [26, 32, 34, 36, 37, 41, 51] can contribute to isolation from conventional personal support and emotional stress [32, 36]. In addition, the lack of respect for their professional expertise, lack of appreciation, lack of positive feedback and insufficient support from agency supervisors [26, 30, 34, 43–45] were also described as stressors [30]. Research has shown that a poor psychosocial working environment by itself does not permanently reduce workability, but it may lead to health conditions that will result in a disability pension [9].

Several studies in this synthesis described that home health aides are often happy and find their job satisfying. Indeed, they seem to enjoy most aspects of the work and look forward to going to work [39, 44, 52]. Job recourses that stimulate personal growth, learning and development have motivational potential because they make employees’ work
meaningful and hold them responsible for work processes and outcomes [63]. This finding can be compared to a study showing that the variety of patients necessitates a diversity of skills. This factor motivates home health aides to remain in home care [34]. According to the JD-R model, home health aides experience psychological and social job resources such as autonomy, feedback and professional development [63]. For example, home health aides recognised themselves as professionals [32] and felt a sense of autonomy and control at work and increased satisfaction when they gained responsibility for transferred tasks [42]. The informants reported job flexibility as a positive and rewarding factor for choosing a home care job because it allowed them to meet client needs as well as their own personal requirements or family responsibilities [34, 48, 52]. The feedback and appreciation from a client or a client’s family positively impacted the home health aides’ mental health [30, 33, 37, 41, 44, 48, 52].

Home health aides developed meaningful, trusting relationships and close bonds with clients and their families [26, 34, 36, 37, 46, 48]. The good relationships with clients and their families can be considered job resources that predict work engagement and motivation and encourage home health aides to meet their goals [54, 64]. On the other hand, job resources can also impact burnout [54]. For example, several studies in this synthesis showed that home health aides experienced relationships with clients that became too close and contributed to emotional stressors. Specifically, the aides became very attached to clients who were ill, sad or died [30, 33, 36, 41, 43–45], and the strength of this bond could lead to increased physical injuries and psychosocial strain [48]. Several studies reported that clients' families could interrupt the work routine and be a source of psychosocial stress [30, 31], and the informants described it as challenging to maintain boundaries related to assigned hours and job duties as their relationship with the client or the client’s family became closer [36, 48].

Organisational aspects of home care work

The home health aides’ experiences of low pay [30, 41, 43, 44, 52], lack of training, unclear expectations and inconsistent scheduling [43, 46] are consistent with previous studies. Those studies reported that low wages and minimal benefits are typical features of home care work and are often a source of job dissatisfaction [11, 13, 15]. Time pressure during hectic workdays [26, 27, 33, 37, 39, 52, 53] and increased indirect work task are sources of
negative emotions such as frustration, stress, workload and overtime hours [34, 47, 51, 53]. Stress at work created mental strain and lead to multitasking, a lack of focus, rushing, moving too fast and an increased risk and fear of falling and injuries [28, 31]. These findings have also been mentioned by other researchers [11, 13, 15]. Excessive sick leave was reported as a problem in home care [39]. As previously shown [9, 11, 12, 65], home health aides also have the highest probability of being granted a disability pension [9]. According to the JD-R model, these organisational aspects of the job can be considered high job demands and increase the risk for burnout and exhaustion among home health aides [64]. Home care services are a complex phenomenon which are influenced by different cultures, even these studies are from the western world, it can be difficult to explore common experiences of occupational health among home health aides.

**Conclusions**

The findings in this synthesis are consistent with previous research showing that occupational health among home health aides is a complex phenomenon. Further, physical, psychosocial and psychological aspects of exposure could potentially have negative and positive effects on home health aides’ occupational health. In order to increase employee’s well-being, create a healthier workplace that provides well-functioning, high-quality home care services and cope with future health challenges, more investigations into the organisation of home care are needed.

**List of abbreviations**

Not applicable in this section.

**Declarations**

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No ethics approval or consent needed

**Consent for publication**

All authors have consented to publication
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Authors' contributions

First author, Grasmo
Contributed to the design of the study. Main responsibility for collection and the analysis of the data, and the main writer of all article drafts as well as the submitted manuscript.

Second author, Liaset
Contributed to the design of the study, collection of the data, the analysis, all article drafts, and the submitted manuscript.

Third author, Redzovic
Main responsibility for the design of the study and the supervision. Contributed to the collection of the data, the analysis, all article drafts, and the submitted manuscript.

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Figure Legends

Figure 1. Flow chart depicting the process of selecting studies