# The prevalence of elder mistreatment in nursing homes: a systematic review

*Forekomsten av mishandling av eldre i sykehjem: en systematisk kunnskapsoppsummering*


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# MASTER'S THESIS

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## PREFACE

This thesis focuses on the problem of mistreatment some older people experience in the geriatric institutions like nursing homes. When an older person starts living in a nursing home, the person leaves behind his/her home and loved ones with a hope of receiving care, help in performing daily activities and health facilities. It is a duty of the care givers to provide a dignified care to the older residents taking care of their integrity. Older people are mirrors to our history and valuable assets of society. They should be valued and treated with respect and dignity everywhere and even more inside the specialized institution like nursing homes. It is sorrowful that some elders experience the acts of mistreatment at the end of their life. From the discussion of this thesis, I believe that it is possible to get a better understanding of the problem of elder mistreatment. I hope that I will succeed to highlight the extent of the mistreatment in nursing homes and be able to create an awareness to the respective authorities.

This thesis would not be possible without the continual motivation, guidance and supervision of my supervisor Professor Kristin Akerjordet. As my supervisor and mentor, she has motivated and taught me more than I can express. I am also grateful to the specialized librarian of the University of Stavanger Grete Mortensen for guiding me through the systematic search process. I am thankful to my classmates and course leader Dosent Anne Norheim for their constructive criticism and comments that helped me a lot to improvise my thesis. In addition, I would like to thank Postdoctoral Researcher Petter Viksveen for his valuable insight that helped me to choose the appropriate analytical method for the thesis.

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**ABSTRACT**

**Background:** Elder mistreatment is a serious social problem and it is not only prevalent in the community but also in institutional settings like nursing homes. The literature on elder mistreatment in institutional settings are limited. Thus, a systematic review was conducted to provide the knowledge of elder mistreatment in nursing home settings in terms of prevalence.

**Objectives:** The aim of this systematic review is to detect the prevalence of elder mistreatment in nursing homes through the synthesis of available empirical studies. The objective is to provide a better insight of elder mistreatment by providing detailed information on the types of elder mistreatment that might be widespread in nursing homes.

**Method:** This systematic search was conducted on databases CINAHL, MEDLINE, Scopus, PsycINFO, and Cochrane Library with the pre-defined inclusion and exclusion criteria. The systematic review was conducted following the check-list of the Preferred Reporting Items for Systematic Reviews. Data extraction and critical appraisal were done using the Joanna Briggs Institute guidelines for the systematic review of prevalence and incidence studies.

**Results:** The prevalence of elder mistreatment in nursing homes is higher than in the community settings. There are two major sources of elder mistreatment in nursing homes and they are nursing staffs and co-residents.

**Conclusion and implications for practice and research:** Acknowledgement of the problem of elder mistreatment is necessary at all levels. Starting from the ground level, it is important that nursing staffs in the nursing homes reflect upon their ethics of care. Likewise, it is crucial that the policymakers and researchers recognize the severity of the problem, conduct research, and develop policies that address this problem. There is a need for standard measurement instruments to study elder mistreatment in nursing homes.

**Keywords:** elder abuse, neglect, elder maltreatment, resident abuse, long-term care

## TABLE OF CONTENTS

# PART 1

# SUMMARY

## 1.0 INTRODUCTION

This systematic review focusses on reporting the prevalence of elder mistreatment (EM) in nursing homes. The significance of studying the prevalence of elder mistreatment in the nursing homes is to ensure that the older residents receive an adequate and dignified care inside the geriatric institutions like nursing homes. There are few empirical studies in the literature that provide information on elder mistreatment in institutional settings (World Health Organization, 2018). Additionally, the literature suggests that research in elder mistreatment should be prioritized due to the availability of sparse research in elder mistreatment and, also, due to conflicts from previous studies like unclear concepts, definitions, and etiology of elder mistreatment that are still there to be solved by new research (Krug, Mercy, Dahlberg, & Zwi, 2002). Moreover, there are no systematic reviews in the literature on the prevalence of EM in nursing homes. Addressing to this research gap, this systematic review study attempts to highlight the epidemiology of EM in nursing homes in terms of its prevalence.

### 1.1 Background

Evidence in the literature suggests that elder mistreatment was not recognized as a social problem before four decades (Quinn & Tomita, 1997; Teymoorian & Swagerty, 2014). The problem of elder mistreatment is believed to be highly prevalent but underreported and underrecognized despite its high prevalence (Acierno et al., 2010; Dong, 2014; World Health Organization, 2008). Similarly, identification of elder mistreatment is considered to be complex because most of the perpetrators of elder mistreatment are people in trusted relationships with older people (Goergen & Beaulieu, 2013; World Health Organization, 2002). Elder mistreatment is underreported by 80% (World Health Organization, 2008). As a rebuttal to this point, it could be argued that only 20% of mistreatment is recognized; and within this 20%, it is believed that 1 in 10 adults have experienced one or other forms of mistreatment (Acierno et al., 2010; Dong, 2014).

The population of older people is predicted to increase in a dramatic fashion with an estimated growth of about 1.2 billion in 2025 and 2 billion in 2050 (World Health Organization, 2008, 2018). It is important to consider the fact that, 320 million older people are likely to be the victims of mistreatment by 2050 if the current prevalence of elder mistreatment remains constant in future (World Health Organization, 2018). It isn’t unfair to depict that the world is going to face the burden of the older population in

near future. Moreover, the problem in providing quality and ethical care to the older population gets bigger if elder mistreatment is failed to be recognized now and if it is delayed to build up prevention strategies.

The frequently used definition of elder mistreatment in literature was, “elder abuse is a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person”, (Action on Elder Abuse, 1995; Krug et al., 2002). This definition is taken as a foundation for discussing elder mistreatment in this systematic review. However, there are disputes in literature regarding definition and types of EM. Taking into consideration the perspectives on elder mistreatment from different other studies, this study has discussed five types of elder mistreatment and they are: physical elder mistreatment, psychological or emotional elder mistreatment, sexual elder mistreatment, financial elder mistreatment and neglect in nursing homes (Goergen & Beaulieu, 2013; Lachs & Pillemer, 1995; Schiamberg et al., 2011; Watson, 2013; World Health Organization, 2008, 2018).

Furthermore, elder mistreatment is an undesirable humanitarian action and threat to society, social norms and justice (World Health Organization, 2011). Furthermore, the consequences of elder mistreatment are very serious as it can cause severe physical and psychological injuries, disabilities and premature death in older people (Lachs, Williams, O'Brien, Pillemer, & Charlson, 1998; World Health Organization, 2018). Every individual globally, including older people, have right to live with dignity, integrity and free from violence (World Health Organization, 2011). It is, therefore, a major concern that some vulnerable, disable, and frail older people are deprived of basic human rights of respect and independence at the end of their life.

### 1.2 Aim, objectives and research question

The aim of this systematic review is to synthesize previous empirical studies on the prevalence of elder mistreatment in nursing home settings. To the best of my knowledge, this is the first systematic review study on prevalence of elder mistreatment in nursing homes.

The objectives of this systematic review are:

- to provide insight of the prevalence of elder mistreatment in nursing homes
- to provide information about the prevalence of different types of elder mistreatment in nursing homes

- to discuss elder mistreatment in the light of ethical guidelines for professionals working in healthcare settings
- to provide awareness for Policymakers and other involved people about the seriousness of the problem of elder mistreatment

The review question addressed is:
What is the current knowledge of elder mistreatment in nursing home settings in terms of prevalence?

## 2.0 THEORETICAL FRAMEWORK

In this chapter, the theoretical framework on elder mistreatment is interpreted and apprehended based on two theoretical perspectives. The concepts of elder mistreatment, prevalence of elder mistreatment, types of elder mistreatment, and elder mistreatment in institutional settings are discussed in the first chapter of the theoretical framework. The ethics of care is discussed in the second part of the theoretical framework. Furthermore, the role of nurses in the nursing home is also discussed in brief.

### 2.1 Concepts of elder mistreatment

Elder mistreatment is a new subject of social violence and, thus, its concepts and definitions are still under discussion (Bonnie & Wallace, 2003; Perel-Levin & World Health Organization, 2008). Several arguments exist in the literature regarding the definitions, etiologies, risk factors and types of elder mistreatment.
The most frequent definition of elder mistreatment in literature is, “elder abuse is a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person”, which is provided by Action on Elder Abuse (AEA) and adopted by World Health Organization (WHO) (Action on Elder Abuse, 1995; Krug et al., 2002). Elder mistreatment is claimed to be often committed by a person who stands in a trustworthy relationship with an older person (World Health Organization, 2008). In addition, elder mistreatment is defined as an intentional abusive action towards older person that leads to the serious risk of harm; and failure of the caregiver to attend the basic needs of an older person also known as neglect (Bonnie & Wallace, 2003). Elder mistreatment includes both acts and omission of acts (Goergen & Beaulieu, 2013). Acts are the intended deeds towards older people that have potential to cause distress or harm; and

omission of acts are failure or negligence of caregiver in providing basic needs and care to the older people also known as neglect (Action on Elder Abuse, 1995; Goergen & Beaulieu, 2013). There exists a controversy regarding the definition of elder mistreatment in the literature. The above-stated definitions include the notions of 'vulnerability', 'dependency', and 'trusted relationship'. It is argued that these definitions fail to acknowledge elder mistreatment committed by outsiders or other sources than those in trusted relationships (Nerenberg, 2008). Moreover, these definitions tend to exclude mistreatment in elders who are not dependent on other trustworthy peoples (Nerenberg, 2008).

Furthermore, there exist controversies in the literature regarding the appropriate use of different terminologies for elder mistreatment like 'elder abuse', 'neglect', 'elder maltreatment', and 'elder mistreatment' (Lachs & Pillemer, 1995). During systematic literature search, terminologies 'elder abuse', 'neglect' and 'elder mistreatment' were used frequently and interchangeably due to variations in definitions and concepts (Falk, Baigis, & Kopac, 2012). Some studies considered psychological abuse, emotional abuse, and neglect as types of maltreatment rather than abuse, while, some believed that material exploitation is a form of abuse rather than maltreatment (Lachs & Pillemer, 1995). Addressing to this controversy, many authorities and studies have preferred the terminology 'elder mistreatment' as a standard terminology and claimed that it possesses a broader concept that addresses all forms of elder abuse and neglect (Falk et al., 2012; Lachs & Pillemer, 1995; Teymoorian & Swagerty, 2014). For that reason, the author of this systematic review has chosen to use the terminology 'elder mistreatment'.

Controversies regarding elder mistreatment also lies around its etiology and risk factors. There are many speculations regarding risk factors of mistreatment in older people. Some theories emphasize on individual traits of both victim and abuser (Bonnie & Wallace, 2003; Schiamberg et al., 2011), while, others have emphasized on factors like the social isolation of older people, previous history of violence, shared living environment (Lachs & Pillemer, 1995). The study like Bonnie and Wallace (2003) has advocated that the dependency of the victim on caregiver is a risk factor for elder mistreatment. Contrary, Lachs and Pillemer (1995) have indicated the dependency of the abuser in the victim to be the risk factor for elder mistreatment. Schiamberg et al. (2011) have attempted to develop a theory for elder mistreatment in institutions. The author has mentioned that etiology of EM lies within three systems, microsystem, mesosystem, and macrosystem (Schiamberg et al., 2011). This theory, however, has

focused on risk factors of elder mistreatment by professional caregivers in institutions and does not explain the risk factors of mistreatment by external sources like resident living together with the victim in an institution. Moreover, World Health Organization has identified factors like staffing issues, staff-resident interactions, the environment of an institution, provision of care and organizational policies to be the risk factors for elder mistreatment within institutions (Krug et al., 2002).

### 2.1.1 Prevalence of elder mistreatment.

Elder mistreatment is recognized as a human right issue in developed countries, whereas, in non-western countries like some countries in Asia, it is still considered to be a taboo and social stigma (Podnieks, Penhale, Goergen, Biggs, & Han, 2010). However, the non-western countries have 10.1% higher prevalence of mistreatment than western countries (Ho, Wong, Chiu, & Ho, 2017; Podnieks et al., 2010). The global prevalence of elder mistreatment is estimated to be between 1% to 35% according to the World Health Organization, taking into consideration the differences in populations, settings, definitions and research methods (Dong, 2014).

A national representative survey by Laumann, Leitsch, and Waite (2008), conducted to estimate the prevalence of elder mistreatment in the United States, showed that 9% experienced verbal mistreatment, 3.5% financial mistreatment and 0.2% experienced physical mistreatment. A global review study in the same year by Cooper, Selwood, and Livingston (2008) focusing on the prevalence of elder abuse and neglect, showed that 6% of older people experienced mistreatment in the last month. While a quarter of vulnerable older people, reported that they had experienced psychological mistreatment; one-third of older people were mistreated alone by their family members (Cooper et al., 2008). Likewise, a recent study in the United Kingdom showed that 2.6% of the people 66 years or more experienced mistreatment. The sources of mistreatment were family members, caregivers and close friends (Biggs, Manthorpe, Tinker, Doyle, & Erens, 2009). Another global review study on elder mistreatment showed the pooled prevalence of elder mistreatment in community settings to be 10% (95% confidence interval (CI), 5.2%-18.6%), and the pooled prevalence for elder mistreatment by caregivers to be 34.3% (95% CI- 22.9%-47.8%) (Ho et al., 2017). Emotional elder mistreatment was found to be the most prevalent in population-based studies followed by financial mistreatment, neglect, physical mistreatment, whereas,

sexual mistreatment was the least prevalent, according to a recent review study (Ho et al., 2017).

Furthermore, it was also evident in a recent review study that caregivers and family members report elder mistreatment more frequently than the abused older people themselves (Ho et al., 2017). The prevalence of elder mistreatment reported by third parties or care-workers was evident to be 34.3%; whereas, the prevalence of elder mistreatment showed by population-based studies was 10% in this study (Ho et al., 2017). It was found in the literature that the family members and caregivers were often used in studies to identify elder mistreatment. This may due to the reason that victims of elder mistreatment often do not report the incidents of mistreatment themselves due to several reasons like fear and embarrassment, mental and physical impairment, cognitive disabilities that cause disorientation to time place and person (Ho et al., 2017; Quinn & Tomita, 1997).

### 2.1.2 Types of elder mistreatment

Elder mistreatment has various forms or types. Based on a number of existing studies, elder mistreatment can be categorized into five different types: physical, psychological or emotional, sexual, financial/material exploitation and neglect (Goergen & Beaulieu, 2013; Lachs & Pillemer, 1995; Schiamberg et al., 2011; Watson, 2013; World Health Organization, 2008, 2018). Controversies also exist on whether or not to include 'self-neglect' into the domain of 'abuse' or 'mistreatment' (Nerenberg, 2008). This systematic review has, however, not included self-neglect because it was not used frequently in literature of elder mistreatment in nursing homes.

Physical mistreatment is defined as intentional acts towards older people that results in physical injury, harm or pain (Dong, 2015; Lachs & Pillemer, 1995). Acts like slapping, throwing objects, hitting, restraining physically or with medications, feeding or putting into bed forcefully are examples of physical elder mistreatment (Lachs & Pillemer, 1995; Schiamberg et al., 2011; Watson, 2013). Psychological or emotional mistreatment implies to provide deliberately emotional distress in older people by showing verbal aggression, threatening them, ignoring or insulting the older person (Dong, 2015; Lachs & Pillemer, 1995; Schiamberg et al., 2011). Sexual mistreatment in older people is defined as carrying out sexual acts towards older people like direct inappropriate touch without consent, an indirect implication of sexual acts like making older people forcefully watch sexual activities or pornography (Dong, 2015; Lachs &

Pillemer, 1995; Watson, 2013). Financial mistreatment is misuse or exploitation of money, finances, funds, materials and valuables (Dong, 2015; Lachs & Pillemer, 1995; Watson, 2013). The acts like stealing from vulnerable people, theft of benefits or social securities, making forcefully sign in financial papers, properties, cheques are the examples of financial mistreatment. Lastly, neglect is narrated as intentional or unintentional failure of caregivers to provide basic care towards older people like providing food and shelter, delivering necessary health care, preventing illness, protecting them from harm, and neglecting their comfort and safety (Lachs & Pillemer, 1995; Schiamberg et al., 2011; Watson, 2013).

### 2.1.3 Elder mistreatment in institutions

A recent fact-sheet on elder abuse published by World Health Organization (2018) showed that rates of mistreatment are considerably higher in institutional settings than in community settings. Studies also state that elder mistreatment is highly prevalent but underreported (Cooper et al., 2008; World Health Organization, 2008). In a study by Cooper et al. (2008), 16% of care home staffs admitted that they have been involved in activities of mistreatment towards older people where the mistreatment was mainly psychological in nature. The same study showed that 80% of nursing home staffs reported that they have observed elder mistreatment, while only 2% of those cases were reported (Cooper et al., 2008). Elder mistreatment in institutional settings involves activities like, unnecessary and excessive use of restraints, neglectful acts like the low or excessive use of medications, neglect in care which leads to complications like fall, development in pressure ulcers and emotional neglect (World Health Organization, 2018). There are various sources of elder mistreatment in institutions like nursing care staffs, other residents, volunteers, and visitors or family members; and the abusive acts can be an individual failure or failure of the institution as a whole (Krug et al., 2002).

## 2.2 Ethics of care

Health care is shepherded by four ethical principles namely, respect to autonomy, beneficence, non-maleficence, and the principle of justice (Beauchamp & Childress, 2001). Non-maleficence is believed to be the supreme of all four principles (Beauchamp & Childress, 2001). The principle of non-maleficence utters that treatment and care should be provided in such a way that it treats and relieves discomfort; but it should be

taken care that, even if the treatment provided cannot treat a person, at least it should not harm the person (Beauchamp & Childress, 2001). The same principle is depicted in both Hippocratic oaths for medical practice as well as in nursing ethics, where beneficence and non-maleficence are obligated (Beauchamp & Childress, 2001).

An important quality of good nursing practice is a practice grounded in ethics or an ethical practice (Holt & Convey, 2012). In nursing practice, code of ethics provides guidelines and support for the proper conduct of professional activities (Dobrowolska, Wrońska, Fidecki, & Wysokiński, 2007; Milton, 2003). The code of ethics for nurses by American Nurses Association has highlighted the attribute of respect for dignity as a fundamental principle of nursing care (American Nurses Association, 2001). It says that nurses are obliged to take care of human dignity, worthiness and human rights of the person they care (American Nurses Association, 2001). The American Nurses Association (ANA) Code of Ethics states that, "the nurse, in all relationships, practices with compassion and respect for the inherent dignity, worth and uniqueness of every individual, unrestricted by considerations of social or economic status, personal attributes, or the nature of health problems" (American Nurses Association, 2001, p.7) Conforming to this statement, it can be said that nurses are expected to care their patients with respect, and in a way that the patient perceives his dignity and worthiness of the patient is taken care of. In a similar way, the International Council of Nurses (ICN) code of ethics for nurses also illustrates the importance of person's human rights, dignity and respect by stating that these are the essential features of nursing care (International Council of Nurses, 2012). Moreover, the ICN code of ethics for nurses says that the predominant element of care is to preserve the dignity of clients while providing care (International Council of Nurses, 2012).

During implementing care, care providers are obliged to be aware of patient/client's legal and moral rights. Nursing ethics illuminates the role of nurses as an agent responsible to preserve, protect and support those rights (Milton, 2003). In addition, nurses are responsible groups of people who practice with a common core principle to help others with their health promotion and quality of life (Milton, 2003). Studies suggest that to deliver quality care in nursing homes, it is important that the care staffs understand the meaning of dignity (Franklin, Ternestedt, & Nordenfelt, 2006). It is thus of utmost importance that nursing care staffs reflect upon their understanding of dignity to provide a dignified care and to avoid mistreatment of the residents (American Nurses Association, 2001; Franklin et al., 2006).

Elder mistreatment as defined earlier is an intentional action towards an older person that results in harm or risk of harm (Bonnie & Wallace, 2003). It would not be unfair to say that elder mistreatment not only violates the basic principle of human rights but also disregards all the four principles of ethics (Bužgová & Ivanová, 2011). This implies that mistreatment of older adults in nursing homes is a breach of the code of ethics and principles of human rights in all possible ways.

This also suggests that nurses have a central and most crucial role in nursing homes. They are the direct care providers, as well as responsible persons for allocating works to the nursing assistants, supervising, designing individualized and appropriate care plans for residents, reporting the authorities and managing the tasks for every shift (Perry, Carpenter, Challis, & Hope, 2003). It is, therefore, important that nurses act as moral agents to conduct ethical practice (Holt & Convey, 2012) and become role models. Caring a vulnerable group of people like older people creates an ethical dimension for practice for nurses in nursing homes. Therefore, it is crucial that nurses practice in accordance with the ethical principles and guidelines.

## 3.0 METHOD

In this chapter, I have presented the methodological considerations highlighting the strengths and limitations of writing the systematic review as a postgraduate thesis. Furthermore, I have briefly described the methodology of systematic review for prevalence studies. Finally, I have discussed the significance of my pre-understanding to reveal how it created the interest for selecting the topic of elder mistreatment in nursing homes.

### 3.1 Methodological Considerations

Systematic reviews are widely accepted, as well as, considered to be an authentic method for writing a postgraduate thesis since the 1990s (Boland, Cherry, & Dickson, 2014). Many institutions encourage their students to write systematic reviews for their postgraduate thesis for the reason that, systematic review not only helps students to gain knowledge as a researcher but also help them evolve as a reviewer (Boland et al., 2014). It also helps students gain insight on different research designs and types of samples and populations through a single review (Boland et al., 2014).

Nonetheless, like every other design of research, writing a systematic review as a postgraduate thesis has its advantages and drawbacks. The main advantage of systematic review is that it helps student researchers to maintain focus on the problem they are interested in, and help them work independently (Boland et al., 2014). Another advantage of the systematic review is that there is no need for ethical clearance and recruitment of participants (Boland et al., 2014). Students can gain insight on methodological strengths and limitations of various research designs of published studies through the systematic review process (Boland et al., 2014). In addition to this, the climacteric advantage of systematic reviews over empirical studies is that generalizability can be obtained through systematic reviews, which is otherwise difficult through primary studies due to small sample size (Boland et al., 2014; Mulrow, 1994).

Regarding downside of writing a systematic review for the thesis is that one cannot experience the real situation and summons of recruiting participants, collecting evidence, and defending ethical considerations (Boland et al., 2014). Another pitfall of doing a systematic review is that the process is monotonous, time-consuming and one can feel isolated (Boland et al., 2014).

Evidence-based practice relies on best available evidence and is of highly importance for health care research (Holly, Salmond, & Saimbert, 2012). Evidence guides clinicians and health care professionals in implementing their best practice and helps policymakers in creating effective policies and interventions (Holly et al., 2012). There are numerous quality empirical research and evidence available in literature. It is important to refine and reduce those studies and evidence to provide generalizable findings that creates a base for rational decision making and implementing evidence-based practice (Baker & Weeks, 2014; Holly et al., 2012; Mulrow, 1994). A systematic review is, thus, an efficient scientific method used for integrating available resources, that uses the explicit methodology which minimizes bias and enhances reliability and accuracy of the findings (Holly et al., 2012; Mulrow, 1994). In addition, the systematic review is also regarded as the optimum method for synthesis of available literature and evidence to address a certain social or health-care issue (Munn, Moola, Lisy, Riitano, & Tufanaru, 2017).

Since a systematic review has pre-defined review question and review protocol with pre-determined eligibility criteria, the process of review is ‘systematic’, and the result synthesized is of high quality and produces the highest level of evidence (Baker & Weeks, 2014; Holly et al., 2012). Aromataris and Munn (2017) stated that systematic

review synthesizes the relevant available literature in an unbiased, rigorous and transparent manner in a single document that displays all quality evidence pertinent to the review question. Similarly, the systematic review has a well-structured review question which forms a base for identification of best available research, their synthesis and critical evaluation (Baker & Weeks, 2014). It provides the overview of current knowledge of a topic by analyzing the results of many high-quality primary studies, through pre-determined criteria and review question (Baker & Weeks, 2014).

Systematic reviews are preferred method over literature reviews for evidence synthesis because the latter often have incomplete guidance and results are unreproducible because of unavailability of search strategy (Lockwood & Oh, 2017). In contrast, a systematic review based on a quality protocol yields a review with greater validity (Lockwood & Oh, 2017).

A systematic review is the best study design that can be used for estimating the global burden of a disease and for answering questions about the prevalence of disease that is larger than a national scale (The Joanna Briggs Institute, 2014). This systematic review has attempted to address the question of global prevalence of elder mistreatment in nursing homes considering to the fact that, the systematic review is the efficient method that can be used to answer this review question. The primary research addressing the prevalence of elder mistreatment in nursing homes around the world are integrated into this review in an attempt to provide the overview of global prevalence. However, the statistical integration of studies or meta-analysis was not possible due to a heterogenous sample. The findings were, therefore, presented through narrative analysis.

The systematic review of prevalence studies is not different from the systematic review of other types of studies (The Joanna Briggs Institute, 2014). However, a structured protocol is needed to produce a valuable prevalence review where the domains like the development of title, review question and objectives, identification of search strategy, inclusion criteria, critical appraisal, search and analysis strategy are crucial (Munn et al., 2017; The Joanna Briggs Institute, 2014). In addition to that, a structured methodology is needed to guide the review to yield a valid and reproducible result. The guidelines provided by internationally recognized sources like Cochrane and Joanna Briggs Institute are identified to escort the reviewer in a proper direction and help in eliminating the risk of bias and errors (Baker & Weeks, 2014; Lockwood & Oh, 2017). The Joanna Briggs Institute has provided a practical and useful critical appraisal

tools/check-list for the systematic reviews of incidence and prevalence studies, with explanation for each item in the check-list (Aromataris & Munn, 2017; The Joanna Briggs Institute, 2014). The explanation of each item in the check-list as well as the detailed information on each step of the review process, provided a proper guidance for the reviewer in writing a systematic review. In addition, the PRISMA check-list helped to figure out if the process was systematic and to observe if any elements were missing in the systematic review (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

This systematic review, therefore, follows the guidelines by the Joanna Briggs reviewer's manual for incidence and prevalence studies (Munn et al., 2017) for data synthesis and critical appraisal of the studies. Elder mistreatment is not exactly a disease, but a phenomenon that leads to adverse consequences in a person (Lachs et al., 1998), just like a certain disease causes disability. Furthermore, prevalence is defined as, " a number of people in a population that have a disease at a given point of time" (The Joanna Briggs Institute, 2014)p. 06.

### 3.2 Analysis process of the review

I came to know through this review process that presentation of synthesis of data in a systematic review for prevalence studies can be done in two different ways and they are: narrative or non-statistical form and meta-analysis (Aromataris & Munn, 2017; Munn et al., 2017). This systematic review has displayed findings through narrative analysis. It was evident from manuals of Cochrane and the Joanna Briggs Institute that narrative analysis is usually preferred method for data analysis when the studies are heterogeneous in nature (Aromataris & Munn, 2017; Ryan, 2013; The Joanna Briggs Institute, 2014). The studies selected for this systematic review were found to be heterogenous in nature after a careful inspection on their methodologies. In addition, a valuable consultation with a statistician in the University made it clear that the studies selected for this review were heterogenous and thus, it was concluded the statistical analysis i.e. meta-analysis of those studies would not create a valid result. Therefore, the narrative analysis was chosen over the statistical analysis to display the findings in this systematic review.

The narrative presentation of findings usually starts from being familiar with the included studies by assessing into the studies' methodological qualities and results, highlighting their important characteristics and distinguishing similarities and differences (Ryan, 2013). Therefore, the analysis phase of review involved a structured

process starting from 1) data extraction, 2) critical assessment of the studies, 3) assessment of heterogeneity in studies to select proper method of analysis and 4) display of similar findings from various studies into different headings.

Firstly, the data extraction was done using standard data extraction form provided by the Joanna Briggs Institute (JBI) (Aromataris & Munn, 2017). Data extraction was done under two headings: citation details and generic study details as in standard JBI data extraction form. Citation details provide information about the author, title of the study, journal and published year, whereas, generic study details deepen into the methodology and main results of the study.

Secondly, the critical assessment of the studies was done using checklist suggested by the Joanna Briggs Institute Critical Appraisal tools for use in systematic reviews of incidence and prevalence studies (Munn et al., 2017). The critical appraisal tools addressed the nine specific domains that are presented below:

1. Does the sample frame address the target population?
2. Was there an appropriate way of sampling?
3. Was the sample size adequate for the study?
4. Was there proper and detail description of subjects and settings?
5. Was there adequate sample coverage during data analysis?
6. Was identification of the condition done through valid methods?
7. Was reliability maintained in the measurement of condition?
8. Were statistical methods used for the study appropriate?
9. Was there adequate response rate?

Each study was evaluated under these nine questions and assessed for their validity, reliability and methodological strengths and weaknesses. The table for critical appraisal for the included studies is displayed in Table 2 below:

**Table 2**. Critical appraisal of studies using the Joanna Briggs Institute's critical appraisal instrument for studies reporting prevalence data

| Studies | Domains of critical appraisal tools (see above) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| (Goergen, 2004) | √ | u | √ | √ | √ | √ | √ | √ | × |
| (Pillemer & Moore, 1989) | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| (Allen, Kellett, & Gruman, 2004) | n/a | n/a | n/a | √ | √ | √ | n/a | √ | n/a |
| (Saveman, Astrom, Bucht, & Norberg, 1999) | √ | √ | √ | × | √ | × | √ | √ | √ |
| (Zhang et al., 2011) | × | × | √ | √ | √ | × | √ | √ | √ |
| (Schiamberg et al., 2012) | × | × | √ | u | √ | × | √ | √ | √ |
| (Castle, 2012) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Goergen, 2001) | √ | × | × | √ | √ | × | √ | √ | × |
| (Lachs et al., 2016) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Ben Natan, Lowenstein, & Eisikovits, 2010) | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| (Harris & Benson, 1999) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Malmedal, Ingebrigtsen, & Saveman, 2009) | √ | √ | √ | √ | √ | × | √ | √ | √ |

√: Yes, ×: No, u: Unclear, n/a: Not applicable

Thirdly, the comparison of data in the studies were done to figure out the similar findings and to assess the heterogeneity in studies. Studies were critically analyzed to rule out whether they varied from one another in terms of definitions and methodologies. They were cautiously checked for the validity of measurement tools and whether the findings were reliable and generalizable. Conducting a meta-analysis of these studies would provide a pooled prevalence of elder mistreatment that would present an important overview on the existence of the problem of elder mistreatment in nursing homes. However, meta-analysis was not possible for this review due to the heterogeneity of studies evident from the critical analysis (Aromataris & Munn, 2017). The rationales for heterogeneity of the studies are presented in detail in the article part of the thesis. Therefore, in this review study, I preferred to conduct narrative analysis to present the data from included studies.

Finally, assessment of results in the studies provided an opportunity to gather similar findings and display it into different headings. The results were further narrated under two main segments: the nature and quality of studies; and the prevalence of elder

mistreatment in nursing homes. The prevalence of elder mistreatment in nursing homes was additionally described under five headings: the prevalence of physical elder mistreatment, the prevalence of psychological elder mistreatment, the prevalence of sexual elder mistreatment, the prevalence of financial elder mistreatment and the prevalence of neglect.

### 3.3 The significance of researcher's pre-understanding

Concepts of elder care differ from one culture to another. Considering the diversity of care globally, care of older people does not take place in a similar way throughout the world (Podnieks et al., 2010). In western countries, most of the older people spend the end of their years receiving long-term care at home or in institutions. Whereas, in non-western countries like most of the countries in Asia, adult children or family members are expected to care their older parents or family members at homes (Podnieks et al., 2010). I am a nurse with the educational and cultural background from one of the developing non-western country, working in a nursing home in a developed country like Norway. Like explained previously, concepts of elder care and elder abuse in my home country is quite different from the concept of elder care and elder abuse in the country I am living in. As being brought up in an Asian country, I have seen older people living together with their families at the end of their life and dying in their own homes. In my country, there are no nursing homes or home-care nursing facilities. In the start of my career as a nurse in Norway, there was a cultural barrier for me to work in a nursing home in another culture, and to understand the concept of elder mistreatment. Cultural attitude of nursing care staffs is already recognized as a risk-factor for mistreatment in institutions (Schiamberg et al., 2011), which was visible in my experience. After having some experience with older people, I became influenced in exploring and understanding the deeper concepts of elder mistreatment and elder care.

Besides that, during my work, I have seen the situations that could be quite challenging to handle, particularly those where health personnel take decisions for patient benefit but against patient's will. There exist many situations, like an older resident especially those with cognitive disabilities, refuse to maintain hygiene, refuse to take medicine or protest certain medical procedure. There also exist situations like elderly aggression, tantrums, misbehavior where a health professional is obliged to protect self and other residents from the potential harm caused by that patient. There exists a situation where a health personnel cannot handle the situation in a justified way

due to lack of knowledge or experience or any other reason like unfamiliar cultural background. Thus, leading to the elder mistreatment. These situations, experiences and cultural differences were the reasons that created my interest in selecting the topic of elder mistreatment in nursing homes.

### 3.4 Ethical considerations

During the research process, I, as a reviewer have tried my best to take care of ethical considerations. I have extracted the data from the studies in an unbiased and precise manner. I have tried my best to provide references in an accurate and unambiguous way. I have acknowledged everyone who is the contributor to my review and declared the conflicts of interest. Please see the article for further information.

## 4.0 SUMMARY OF FINDINGS

Twelve studies were selected for this systematic review from 586 studies that were generated from the primary search. The details of the selection process of the studies is described in the Article part of the thesis. The studies did not have a wide geographical variation as seven out of twelve studies were from the USA, four studies were from the different countries in Europe, and one study was from a country in the middle east. None of the studies from other parts of the world were discovered in the search databases. The nature of the studies and their origin are presented in Table 3, Table 4, Table 5 and Table 6. There were variations in the nature of the studies despite all having a common setting i.e. nursing homes.

The results in the Article are narrated under two main segments: the nature and quality of studies, and the prevalence of elder mistreatment in nursing homes. The nature and quality of studies are presented in tables in the article. The prevalence of elder mistreatment in nursing homes is further described under five headings: the prevalence of physical elder mistreatment, the prevalence of psychological elder mistreatment, the prevalence of sexual elder mistreatment, the prevalence of financial elder mistreatment and the prevalence of neglect. The prevalence of these five distinct forms of elder mistreatment is presented through a narrative analysis. The findings are presented and discussed in detail in the Article, i.e. Part 2.

## 5.0 DISCUSSION

The aim of this review was to identify the problem of elder mistreatment in nursing homes in term of its prevalence. The prevalence of elder mistreatment in nursing homes was found to be higher than the figures of estimation of elder mistreatment in community settings provided by the World Health Organization (Dong, 2014). The prevalence of elder mistreatment estimated by the World Health Organization (WHO) was 1% to 35% (Dong, 2014). However, this study found the overall prevalence of at least one form of elder mistreatment was 1.53% to 79%, much higher in upper limit than the estimation by WHO. Similarly, the one-month prevalence of elder mistreatment in nursing homes was identified to be 20.2% by a study in this systematic review (Lachs et al., 2016) which was higher than the one-month prevalence of elder mistreatment in general population which was 6% (Cooper et al., 2008). The findings of this review, thus, support the fact by World Health Organization (2018) that the prevalence of elder mistreatment is higher in institutional settings than in community settings.

The finding of this systematic review was similar to the review study by Cooper et al. (2008). The review study by Cooper et al. (2008) showed that 80% of nursing staffs reported that they had observed elder mistreatment. Similar result was found in this systematic review. The one-year prevalence of the elder mistreatment observed by nursing staffs in this systematic review ranged from 66% to 81%. In almost all the studies that involved nursing staffs as respondents, the prevalence of observed acts of elder mistreatment was higher than self-reported mistreatment (Goergen, 2001, 2004; Harris & Benson, 1999; Malmedal et al., 2009; Pillemer & Moore, 1989). The interesting finding revealed through this review was that there was a remarkable difference between the prevalence of elder mistreatment observed by the nursing staffs and prevalence of elder mistreatment reported to be committed by themselves. This leads to the presumption that there is a need of interventional research that should be carried out to find out whether nursing staffs can be motivated to report observed acts of mistreatment through interventions. There is also the necessity of studies that aim in finding out the reasons of non-reporting of elder mistreatment despite being observed, by nursing staffs.

Furthermore, the findings from this review study support the speculation by Nerenberg (2008) that, the most frequently used definitions of elder mistreatment in literature do not conceal every aspect of elder mistreatment. For example, the definition

of elder mistreatment by WHO (Krug et al., 2002), and AEA (Action on Elder Abuse, 1995) have stated that elder mistreatment is perpetrated by one in a trusted relationship. Likewise, Bonnie and Wallace (2003) have defined elder mistreatment as an act of failure by caregivers in attending needs of older people. These two definitions, however, does not include the mistreatment perpetrated by other residents which were noticed to be an important aspect of elder mistreatment in nursing homes. These definitions might be irrelevant to include in the studies where the context is nursing home because the abusers or the perpetrators of mistreatment were not necessarily the people in a trusted relationship, as stated in the definitions. It was apparent in this systematic review that people who are outside the domain of trusted relationship, like other residents living together in nursing homes were also the maltreaters or abusers.

Nerenberg (2008) had also questioned whether self-neglect is one of the types of elder mistreatment, and whether to use the concept of self-neglect inside the sphere of elder mistreatment. It was realized that none of the studies included in this systematic review had encompassed self-neglect in the domain of elder mistreatment in nursing homes. Similarly, this study also found that the prevalence of sexual mistreatment and financial mistreatment towards the older residents by nursing staffs were comparatively very low. This explains why the authors of the Norwegian study (Malmedal et al., 2009) removed the items of sexual mistreatment from their questionnaire. Future studies can be suggested to focus on the more prevalent types of mistreatment in nursing homes which are psychological mistreatment, physical mistreatment and neglect.

The prevalence of at least one form of physical mistreatment, psychological mistreatment, and neglect committed by nursing staffs ranged from 6% to 23.5%, 23% to 78% and 21% to 62% respectively. These findings indicate that unethical and inhumane practices by the caregivers in nursing homes might be ‘highly prevalent’. If so, this reflects that the nursing care in nursing homes tends to breach all the principles of bioethics (Beauchamp & Childress, 2001). In addition, it tends to breach some of the fundamental code of ethics for nurses (American Nurses Association, 2001; International Council of Nurses, 2012) like respect for human dignity, worthiness, and human rights. The findings of this systematic review also indicate that nursing homes possibly fail to provide dignified care to the older people at the end of their lives. There might be no doubt that these inhumane and negligent practices in nursing homes is a severe problem that should be recognized by the authorities. Likewise, delivering

quality care depends on whether the care provider takes care of dignity and integrity of a person (Franklin et al., 2006). The high prevalence of EM in nursing homes supports the statement by Franklin et al. (2006) indicating that nursing staffs should genuinely reflect upon their understanding of dignity and their acts to provide a good quality care.

Regarding the prevalence of resident-to-resident mistreatment (RREM), the generalizability of RREM in nursing homes was not possible because there were only two studies in this review that measured RREM (Castle, 2012; Lachs et al., 2016), and both were the USA based studies. There was a wide variation in the results between these two studies despite both having the adequate sample size (Table 3&5). However, the study methods and measurement tools of those studies were different. This finding supports the statement of a review study by Dong (2015) which stated that there is a wide inconsistency between the measurement tools among studies of EM. This finding by Dong (2015) was also evident in other studies in this systematic review. It was observed that none of the studies in this systematic review have used a common tool for exploring the prevalence of elder mistreatment. For example, the study by Ben Natan et al. (2010) aimed in determining elder mistreatment with an objective to identify the prevalence of five types of mistreatment: physical mistreatment, psychological mistreatment, sexual mistreatment, financial exploitation, and neglect. Whereas, the study by Goergen (2004) aimed in measuring elder mistreatment using seven classifications of mistreatment: physical mistreatment, psychological mistreatment, inappropriate use of mechanical restraints, inappropriate use of chemical restraints, neglectful care, psychosocial neglect, and sexual abuse. Pillemer and Moore (1989) studied only physical and psychological mistreatment, whereas, Malmedal et al. (2009) expressed that inadequate care would be the proper terminology to address elder mistreatment in Norwegian context and included four classifications of mistreatment: emotional mistreatment, physical mistreatment, financial mistreatment, and neglect. This inconsistency in definitions and types of elder mistreatment supports the statements by (Dong, 2015; Falk et al., 2012; Lachs & Pillemer, 1995) that concepts, definitions, and measurement tools vary in the literature of EM that yields inconsistent and ungeneralizable results.

The study by Allen et al. (2004) provides a valuable insight into the fact that the most frequent form of the complaints of mistreatment that is received by Ombudsman is the complaint of physical mistreatment. Referring to the findings, that psychological mistreatment is the most frequent form of EM in nursing homes (Ben Natan et al., 2010;

Castle, 2012; Goergen, 2001, 2004; Lachs et al., 2016; Malmedal et al., 2009; Pillemer & Moore, 1989), it could be speculated that psychological mistreatment might be difficult to be recognized by family members in oppose to physical mistreatment, thus, tend to complain less frequently. It could also be conjectured that physical sorts of mistreatment might be visible in the forms of bruises or other physical injuries, whereas, other forms of mistreatment like psychological mistreatment and neglect, need a deeper investigation and observation. Considering the ethics of care, no forms of mistreatment are accepted in principles of care and no forms of mistreatment should be outweighed than other. Therefore, it is important that strategies should also be established to strengthen the role of family members in the identification of other forms of mistreatment in addition to physical mistreatment.

### 5.1 Implications for clinical practice, health care policies and research

Addressing the issue of elder mistreatment in nursing homes through this systematic review was important because it provided evidence to the fact that there is a severe lack of empirical studies in elder mistreatment, especially mistreatment in nursing homes. This systematic review also visualized that the existing studies in EM in nursing homes suggest that the prevalence of EM in nursing homes is high. Therefore, it is suggested that more empirical studies should be carried out to analyze the severity of the problem, to identify the risk-factors, and to implement the preventive measures for elder mistreatment. Moreover, it is extremely important that this issue is recognized by the healthcare institutions, supervisors, and policy makers. It is crucial that they implicate the prevention strategies for the prevention of elder mistreatment from geriatric institutions like nursing homes.

Glancing from the nursing perspective, the prevalence of elder mistreatment in nursing homes, showed that nursing practice in nursing homes lacks implementation of the principles and guidelines of ethics. This review provides guidance to nursing practitioners, other health care practitioners, policymakers, and researchers. It provides an indication to nursing practitioners and other care givers that they need to reflect upon own ethical practice consciously to provide ethical care in nursing homes.

### 5.2 Methodological strengths and weaknesses of this review

A pre-defined research protocol with pre-defined research question and inclusion criteria is substantial to produce a decent quality systematic review (Aromataris &

Munn, 2017; Boland et al., 2014; Hamel et al., 2007). This systematic review study is established on a pre-written research protocol discussed and reanalyzed with valuable insights and suggestions from the supervisor. Likewise, assessment of quality of scientific studies and selection of appropriate methods used for combining the findings are two of the major factors that determine the quality of a systematic review (Hamel et al., 2007). The studies in this systematic review were critically assessed with the help of critical appraisal tools by the Joanna Briggs Institute for the systematic review of the incidence and prevalence studies (Munn et al., 2017). This helped in strengthening the quality of this systematic review. Likewise, assessment of the studies for heterogeneity was done with the help of a statistician to figure out whether the meta-analysis or the narrative analysis is the appropriate method for analysis for this systematic review. The selection of appropriate method for data analysis also helped in increasing the methodological strength of this systematic review. However, language restriction and publication bias are considered to be the factors that tend to decrease the qualities of systematic reviews, as these biases can cause underreporting of issues (Hamel et al., 2007). In this systematic review, the publication bias is not determined, and language restriction persists because only the empirical studies in English are included. Similarly, considering the review of prevalence studies, it is recommended that two reviewers conduct own searches and assessment of qualities of studies (Munn et al., 2017). The search and assessment of qualities of studies are done by a single reviewer which may weaken the methodological quality of this review. However, to minimize this bias, the search was run twice by the reviewer under supervision and followed up by a specialized librarian.

This systematic review is centered around EM in nursing home settings. It does not address the issues of mistreatment in other long-term care territories aside from nursing homes like assisted living, home nursing care and day care centers. It is obvious that people get admitted to long-term care institutions due to long-term sicknesses and vulnerabilities. It could be argued that mistreatment is prevalent in those areas as well, considering the facts and figures provided by different studies (Cooper et al., 2008; World Health Organization, 2008). Correspondingly, nursing homes also have residents who are younger in age, even though, most of the residents in nursing homes are older people. This review study does not inculpate the issue of mistreatment of younger residents receiving care in nursing homes. In addition, the findings of this review cannot

be generalized globally because of the dominance of the USA based studies; seven out of the twelve studies in this review are from the USA.

## 6.0 CONCLUSION

Elder mistreatment is prevalent not only in the community but also in specialized institutions like nursing homes. Considering the prediction of huge increment in elder population in near future, it is important to address the issue of elder mistreatment in present to ensure an ethical and quality care to our elders now and in future. From this systematic review, it can be concluded that the most frequently practiced form of elder mistreatment in nursing homes are psychological mistreatment, physical mistreatment and neglect. The prevalence of financial mistreatment and sexual mistreatment were comparatively lower. Comparison of elder mistreatment in nursing homes with community settings showed that the prevalence of EM is higher in nursing homes. It was also evident that literature in elder mistreatment in nursing homes is dominated by the USA based studies. Therefore, the findings were difficult to generalize in the global scenario. On the basis of the included empirical studies it can be concluded that the nursing staffs reported elder mistreatment being conducted by their colleagues more than the elder mistreatment conducted by themselves in the studies. It was also observed that there was inconsistency in concepts and definitions of elder mistreatment in almost all studies. Inconsistency was also present in defining types of elder mistreatment that made it difficult to calculate pooled-prevalence through meta-analysis. Likewise, it was noticeable that there was lack of standard measurement instrument for the detection of elder mistreatment in nursing homes. Lastly, it was evident that there are two major sources of elder mistreatment in institutions and they are: nursing staffs and co-residents. It leads to a conclusion that there is an immense need for the development of standard instruments for measurement of elder mistreatment in institutional settings. In addition, there is a need for more primary studies that focus on identification of elder mistreatment in institutions to address research gap in elder mistreatment.

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# PART 2
# ARTICLE

# The prevalence of elder mistreatment in nursing homes: a systematic review

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# The prevalence of elder mistreatment in nursing homes: a systematic review


## ABSTRACT

**Background and objectives:** Elder mistreatment (EM) is a serious social problem and it is not only prevalent in the community but also in institutional settings like nursing homes. The literature on elder mistreatment in institutional settings are limited. Thus, a systematic review was conducted to provide the knowledge on prevalence of elder mistreatment in nursing homes.

**Research design and methods:** The systematic search was conducted on databases CINAHL, MEDLINE, Scopus, PsycINFO, and Cochrane Library. The systematic review was conducted following the check-list of the Preferred Reporting Items for Systematic Reviews. Data extraction and critical appraisal were done using the Joanna Briggs Institute's guidelines for the systematic review of prevalence and incidence studies.

**Results:** The prevalence of elder mistreatment in nursing homes is higher than in the community settings. There are two major sources of elder mistreatment in nursing homes and they are nursing staffs and co-residents.

**Discussion and implications for practice and research:** Acknowledgement of the problem of elder mistreatment is important. Starting from the ground level, it is important that care staffs in the nursing homes reflect upon their ethics of care. It is also important that the identification and prevention of EM are prioritized at the organizational level. Likewise, it is crucial that the researchers, authorities, and policymakers conduct primary studies and build up prevention strategies for EM. Future studies should focus on developing standard concepts, definitions and measurement tools for EM in institutional settings.



**Keywords:** elder abuse, neglect, elder maltreatment, resident abuse, long-term care

## INTRODUCTION

This systematic review focusses on narrating the prevalence of elder mistreatment (EM) in nursing homes. There are few studies in literature that provide information on EM in institutional settings (World Health Organization, 2018). Literature suggests that research in EM should be prioritized due to the availability of sparse research in EM, and also due to the unsolved conflicts from previous studies regarding the concepts, definitions, and etiology of EM that are still there to be solved by new research (Krug et al., 2002). The overall prevalence of EM and its types in nursing homes is unknown (Dong, 2017). In addition, there exist no systematic review studies that show the prevalence of EM in nursing homes. Addressing to this research gap, this systematic review study attempts to highlight the epidemiology of EM in terms of its prevalence.

### Background

Elder mistreatment is defined as, "…a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person" (Action on Elder Abuse, 1995; Krug et al., 2002). This definition is provided by Action on Elder Abuse (AEA), adopted by World Health Organization (WHO) and found to be frequently used in literature (Action on Elder Abuse, 1995; Krug et al., 2002). Elder mistreatment is also defined as an intentional abusive action towards older adult that leads to the serious risk of harm; and the failure of the caregiver to attend the basic needs of an old person also known as neglect (Bonnie & Wallace, 2003). There is a controversy in the literature regarding the definitions of the EM. The existing definitions of EM include the notions of 'vulnerability', 'dependency' and 'trusted relationship'. It is argued that those definitions fail to acknowledge EM committed by outsiders or the other sources than those in trusted relationships and EM in elders who are not dependent on others (Nerenberg, 2008). In a similar manner, there exists a dispute in the literature regarding the appropriate use of different terminologies for EM (Lachs & Pillemer, 1995). During literature search, it was discovered that the terminologies 'elder abuse', 'neglect', and 'elder mistreatment' were frequently and interchangeably used due to variations in definitions and concepts (Falk et al., 2012). Some literature consider psychological abuse, emotional abuse, and neglect as forms of maltreatment rather than abuse; whether some believe that material exploitation is a form of abuse rather than

maltreatment (Lachs & Pillemer, 1995). Addressing to this controversy, many studies have preferred terminology 'elder mistreatment' as a standard terminology and have claimed that it possesses a broader concept that addresses all forms of elder abuse and neglect (Falk et al., 2012; Lachs & Pillemer, 1995; Teymoorian & Swagerty, 2014). For that reason, the author of this systematic review has chosen to use the terminology 'elder mistreatment'.

The prevalence of EM is estimated to be between 1% to 35% according to the World Health Organization, taking into consideration the differences in populations, settings, definitions and research methods (Dong, 2014). A global review study by Cooper et al. (2008) in the prevalence of elder abuse and neglect, showed that 6% of older people experienced mistreatment in the last month. While a quarter of vulnerable older people reported that they had experienced psychological mistreatment, one-third of older people were mistreated alone by their family members (Cooper et al., 2008). Another global review study on elder mistreatment showed the pooled prevalence of EM in community settings to be 10% (95% confidence interval (CI), 5.2%-18.6%), and the pooled prevalence for EM by caregivers to be 34.3% (95% CI- 22.9%-47.8%) (Ho et al., 2017). Emotional EM was found to be the most prevalent in population-based studies followed by financial mistreatment, neglect, physical mistreatment, whereas, sexual mistreatment was the least prevalent (Ho et al., 2017). A recent fact-sheet on elder abuse published by World Health Organization (2018) showed that rates of mistreatment are considerably higher in institutional settings than in community settings. Elder abuse in institutional settings involves activities like unnecessary and excessive use of restraints, acts like the low or excessive use of medications, and neglect in care which leads to complications like fall, development of pressure ulcers, and emotional neglect (World Health Organization, 2018). Consequences of elder mistreatment are very serious; it can cause severe physical and psychological injuries, disabilities, and premature death in older people (Lachs et al., 1998; World Health Organization, 2018). Different sources of EM are identified in the institutions like nursing care staffs, other residents, volunteers, and visitors or family members, and the abusive acts are considered to be an individual failure or failure of the institution as a whole (Krug et al., 2002).

In addition, the problem of elder mistreatment is also considered to be underreported and underrecognized, despite its high prevalence (Acierno et al., 2010; Cooper et al., 2008; Dong, 2014; World Health Organization, 2008). Elder mistreatment

is estimated to be underreported by 80% (World Health Organization, 2008). As a rebuttal to this point, it could be argued that only 20% of mistreatment is recognized; and within this 20%, 1 in 10 adults have experienced one or other forms of mistreatment (Acierno et al., 2010; Dong, 2014). Similarly, underreporting of EM is also observed in the nursing homes. In a study, 80% of nursing home staffs reported that they have observed EM, while only 2% of those cases were reported (Cooper et al., 2008). A study showed that the caregivers and family members reported EM more frequently than the abused older people themselves (Ho et al., 2017). The prevalence of elder mistreatment reported by third parties or care-workers was 34.3%; whereas, the prevalence of elder abuse showed by population-based studies was 10% (Ho et al., 2017). In the literature, family members and caregivers are often used in studies to identify EM. This might be due to the reason that victims of elder mistreatment often do not report the incidents of mistreatment themselves due to several reasons like fear and embarrassment, mental and physical impairment, cognitive disabilities that cause disorientation to time place and person (Ho et al., 2017; Quinn & Tomita, 1997).

The population of older people is predicted to increase in a dramatic fashion, with an estimated growth of about 1.2 billion in 2025 and 2 billion in 2050 (World Health Organization, 2008, 2018). It is important to consider the fact that, 320 million older people are predicted to be the victims of mistreatment by 2050, taking into consideration the present prevalence (World Health Organization, 2018). It isn't unfair to depict that the world is going to face the burden of the older population in near future. Moreover, the challenge in providing quality and ethical care to the older population increases if elder mistreatment is failed to be recognized now and if it is delayed to build up prevention strategies.

**Aim of the research**

The aim of this systematic review is to synthesize previous empirical studies on the prevalence of elder mistreatment in nursing home settings. To the best of my knowledge, this is the first systematic review study that shows the prevalence of elder mistreatment in nursing care homes.

The review question addressed is:

What is the current knowledge of elder mistreatment in nursing home settings in terms of prevalence?

## METHODS

### Evidence acquisition

### Literature search

The systematic search was conducted on the databases CINAHL, Scopus, MEDLINE, PsycINFO and Cochrane library, during the period of August 2017 to April 2018. The studies from 1980 to 2017 were included in this systematic review. The following keywords with different combinations were used: 'elder abuse', 'elder mistreatment', 'elder maltreatment', 'resident abuse', 'abuse', 'patient abuse', 'patient maltreatment', 'neglect', 'nursing home', 'long-term care', 'long-term care facilities', 'incidence' and 'prevalence'. The most sensitive keywords during the search were 'elder abuse', 'neglect', 'elder mistreatment' and 'long-term care'. An additional manual search was conducted in the references of included studies to rule out missing articles in searched databases. The check-list by the Preferred Reporting Items for Systematic Reviews (PRISMA) was used to perform the systematic review (Moher, Liberati, Tetzlaff, & Altman, 2009), whereas, the data extraction and critical analysis of the studies are done using the manual of the Johanna Briggs Institute guidelines for systematic review of incidence and prevalence studies (Munn et al., 2017). The process of systematic search is displayed in the PRISMA flowchart (Moher, Liberati, Tetzlaff, & Altman, 2009) in Figure 1. Table for detailed search strategies in each database is attached in Appendix I.

### Inclusion and exclusion criteria, and selection process

The inclusion criteria for this review was set using the mnemonic CoCoPop that stands for Condition, Context, and Population of the study, as suggested by the Johanna Briggs Institute's guidelines for the systematic review of incidence and prevalence studies (Munn et al., 2017). The condition, context, and population of interest in this study are:

Condition- Elder mistreatment

Context- Nursing homes in the long-term healthcare setting

Population- Older people 60 years of age or more, living in nursing homes

The inclusion and the exclusion criteria are presented in the Table 1 below:

**Table 1.** Inclusion and exclusion criteria

| Inclusion | Exclusion |
|---|---|
| Studies that measures:<br>prevalence of elder mistreatment or any form of elder mistreatment in nursing homes<br><br>Studies with quantitative or mixed-method design<br><br>Peer-reviewed journal articles published in any period in English | Elder abuse and neglect in community settings, hospital settings, and other long-term care settings like assisted living centers, adult foster care, paid assistance in the home, home health care and hospice<br><br>Review articles, book reviews, editorials and dissertations |

**Data extraction and Quality appraisal**

Data were extracted using standard data extraction form provided by the Joanna Briggs Institute (Munn et al., 2017). The details of data extraction are attached in Appendix II. The quality appraisal of the included studies was done using checklist suggested by the Joanna Briggs Institute Critical Appraisal tools for use in systematic reviews of incidence and prevalence studies (Munn et al., 2017). The critical appraisal tools address nine specific domains. The domains are narrated below, and the critical appraisal table is presented in the Table 2.

1. Does the sample frame address the target population?
2. Was there an appropriate way of sampling?
3. Was the sample size adequate for the study?
4. Was there proper and detail description of subjects and settings?
5. Was there adequate sample coverage during data analysis?
6. Was identification of the condition done through valid methods?
7. Was reliability maintained in the measurement of condition?
8. Were statistical methods used for the study appropriate?
9. Was there adequate response rate?

**Table 2**. Critical appraisal of studies using the Joanna Briggs Institute's critical appraisal instrument for studies reporting prevalence data

| Studies | Domains of the critical appraisal tools (see above) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| (Goergen, 2004) | √ | u | √ | √ | √ | √ | √ | √ | × |
| (Pillemer & Moore, 1989) | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| (Allen et al., 2004) | n/a | n/a | n/a | √ | √ | √ | n/a | √ | n/a |
| (Saveman et al., 1999) | √ | √ | √ | × | √ | × | √ | √ | √ |
| (Zhang et al., 2011) | × | × | √ | √ | √ | × | √ | √ | √ |
| (Schiamberg et al., 2012) | × | × | √ | u | √ | × | √ | √ | √ |
| (Castle, 2012) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Goergen, 2001) | √ | × | × | √ | √ | × | √ | √ | × |
| (Lachs et al., 2016) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Ben Natan et al., 2010) | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| (Harris & Benson, 1999) | √ | √ | √ | √ | √ | × | √ | √ | √ |
| (Malmedal et al., 2009) | √ | √ | √ | √ | √ | × | √ | √ | √ |

√: Yes, ×: No, u: Unclear, n/a: Not applicable

## FINDINGS

### Evidence synthesis

Using different keyword combinations, the search generated a total number of 586 studies from all databases. After the removal of duplicates and careful assessment of the titles and abstracts, 42 studies were assembled for further assessment. The full texts of 42 studies were assessed carefully using inclusion and exclusion criteria and 12 studies were selected for the review. The reasons for exclusion of the studies are documented in the PRISMA flowchart in figure 1.

Please insert figure 1 here

The results are narrated under two main segments: the nature and quality of studies; and the prevalence of EM in nursing homes. The prevalence of EM in nursing homes is further described under five headings: the prevalence of physical EM, the prevalence of psychological EM, the prevalence of sexual EM, the prevalence of financial EM and the prevalence of neglect.

**The nature and quality of selected studies:**

Among the studies included in this review, seven studies took place in the USA, two in Germany, one in Sweden, one in Norway, and one in Israel. Unfortunately, no studies from other parts of the world were found in the databases. Older residents in nursing homes were mistreated by nursing staffs in 10 studies and in 2 studies there was resident-to-resident elder mistreatment. Family members of older residents living in nursing homes were respondents in three studies, while five studies asked nursing staffs for elder mistreatment. One study reviewed records in ombudsman's record system, and three studies used multiple sources for identification of elder mistreatment. The nature of studies according to the source of data is displayed in Table 3, Table 4, Table 5 and Table 6 below:

Please insert Table 3 here

Please insert Table 4 here

Please insert Table 5 here

Please insert Table 6 here

**Study design and samples**

Five of the studies were quantitative retrospective studies (Allen et al., 2004; Castle, 2012; Pillemer & Moore, 1989; Saveman et al., 1999; Zhang et al., 2011), in which one study used retrospective case-record review (Allen et al., 2004) for identification of EM. Three studies used mixed-method approach (Goergen, 2001, 2004; Harris & Benson, 1999), two studies were cross-sectional surveys (Post et al., 2010; Schiamberg et al., 2012), one study was a questionnaire survey study (Malmedal et al., 2009), one study used correlational quantitative method (Ben Natan et al., 2010) and one study was observational prevalence study (Lachs et al., 2016).

Nursing care staffs were respondents in five of the selected studies, which are displayed in Table 3. Out of those studies, Pillemer and Moore (1989), Ben Natan et al. (2010) and Castle (2012) have employed random sampling method. Saveman et al. (1999) have used random sampling for the selection of inhabitants in two cities in Sweden. However, it is not clear how the two cities were selected out of other cities in Sweden. Likewise, Goergen (2001) used convenience sampling of 9 nursing homes in a state in Germany. There were three studies that had family members of older residents living in nursing homes as respondents and all the studies had a similar method of the sampling i.e. random-digit-dial telephone survey (Post et al., 2010; Schiamberg et al., 2012; Zhang et al., 2011). Three mixed-method studies were included in this review but only quantitative data that were relevant to study prevalence were extracted from those studies. Two of those studies selected nursing homes using random sampling (Goergen, 2004; Lachs et al., 2016) and one used stratified cluster sampling and had the participation rate of 47% (Harris & Benson, 1999).

**Quality of available evidence**

The initial idea behind the review was to conduct a meta-analysis to calculate a pooled prevalence of EM in nursing homes. However, meta-analysis cannot be performed due to the heterogeneity between the studies. Statistical test for heterogeneity is not conducted because it was evident during data extraction that the studies were heterogenous to one another in terms of definition and use of measurement instruments. It was also observable during abstraction that only two of the studies used a previously validated standard method, Conflict Tactics Scale (CTS) (Cooper et al., 2008) but modified it to make it, what they claim to be more appropriate for their context i.e. nursing homes (Goergen, 2004; Pillemer & Moore, 1989). Other studies used own

questionnaires. While the study like Malmedal et al. (2009) mentioned that they pre-tested the validity of questionnaires through pilot studies, others did not mention anything about validity and reliability of their measurement instruments. The dissimilarities in definitions and measurement instruments are shown with the help of an example. For example, Castle (2012) developed questionnaires for his study based on own experiences and interviews with nursing aides and directors. No definitions for either EM or resident-to-resident elder mistreatment (RREM) were presented in the background. The definitions and methodologies of two studies that measure RREM have a wide contrast (Castle, 2012; Lachs et al., 2016) that have yielded two disparate findings (Table 3&5). Likewise, Schiamberg et al. (2012) have incorporated sexual mistreatment under physical mistreatment for identifying EM, whereas all other studies have examined sexual mistreatment as a separate problem.

There are more examples of differences in definitions of EM. A Norway based study chose the term 'inadequate care' for EM (Malmedal et al., 2009). It stated that this terminology was relevant and more appropriate to illustrate the behaviors of misconduct in Norwegian nursing homes. Also, because they intended to measure lack of knowledge, inadequate services, access to those services; and acts of negligence in addition to the mistreatment. However, the literature and background studies used in it were studies of abuse and neglect. Similarly, there were variations in the definition of physical mistreatment among the studies. A study by Schiamberg et al. (2012) aimed to measure physical abuse and used three domains to measure physical abuse and they were physical mistreatment, sexual mistreatment and force use of restraints. In other studies, sexual mistreatment is measured as a separate type of EM (Ben Natan et al., 2010; Castle, 2012; Goergen, 2001, 2004; Lachs et al., 2016; Malmedal et al., 2009; Pillemer & Moore, 1989) as opposed to this study.

In conclusion, the quality of studies included was poor in terms of consistency. Dissimilarities existed on all domains like definitions, measurement instruments, and types of respondents. Therefore, narrative presentation of the study was chosen over meta-analysis.

**The prevalence of elder mistreatment in nursing homes**

Twelve studies presented in table 3,4, 5 and 6 have reported the prevalence of EM in nursing homes perpetrated by either nursing care staffs or other residents living together in nursing homes. The prevalence of at least one form of EM reported by the studies had

an extremely wide variation of 1.53% to 97% (Castle, 2012; Harris & Benson, 1999). This variation was due to the dissimilarities in nature of studies and inconsistency in measurement tools. Even though the studies had a common aim of measuring EM, the focus of studies ranged from identifying one type of EM to two or more types, that lead to variations and dissimilarities in questionnaires and outcomes. For example, the study that had the lowest prevalence 1.53% was a study with an aim to determine theft in nursing homes i.e. a form of financial mistreatment with a prevalence period of 1-year. Whereas, the study with the highest prevalence i.e. 97% was a study with an aim to find the prevalence of resident to resident mistreatment with a prevalence period of 3 months. On that account, it was unfair to present EM as a single phenomenon. Therefore, the findings on EM are divided into its types and presented.

There were six studies where nursing staffs were respondents and three of those studies reported the 1-year prevalence of EM in nursing homes (Table 3). One-year prevalence of at least one form of EM, reported by the nursing staffs being and perpetrated by themselves ranged from 40% to 79% (Goergen, 2001; Pillemer & Moore, 1989). Whereas, the prevalence of at least one form of EM observed by nursing staffs ranged from 66% to 81% excluding a study that focused only on theft in nursing homes (Harris & Benson, 1999).

There are two studies in this review that are not direct prevalence studies in nursing homes as other 10 studies, but they provide valuable acuities on describing the prevalence of elder mistreatment in nursing homes. Therefore, they are included in this review due to their precious contribution to the field of research of EM. One of those studies is a study that analyzed 2-years records in Ombudsman's recording system, conducted by Allen et al. (2004) which showed that 41% of complaints of mistreatment received by Ombudsman were the complaints of physical mistreatment, followed by the complaints of verbal mistreatment and neglect which was 19%. Another study by Saveman et al. (1999) showed that, on total perpetrators of EM in residential settings, 67% were the nursing home staffs and the most frequent form of mistreatment committed by them were physical and psychological mistreatments.

**The prevalence of physical mistreatment**

The prevalence of physical EM was determined in eight studies (Ben Natan et al., 2010; Castle, 2012; Goergen, 2001, 2004; Lachs et al., 2016; Malmedal et al., 2009; Pillemer & Moore, 1989; Schiamberg et al., 2012) and the prevalence ranged from 5.7% to 94%.

The study that had the lowest prevalence of physical mistreatment was a study on the resident to resident elder mistreatment with 4-weeks prevalence period with a sample size of 2,011 residents (Lachs et al., 2016). Whereas, the study with the highest prevalence was also a study on resident to resident EM and had three months prevalence period with a sample of 6606 nurse aides (Castle, 2012). Both studies took place in the USA. The former study was an observational study and the latter measured EM through the questionnaires (Table 3). Physical mistreatment to older residents committed by nursing staffs and reported by themselves was found to be lowest (6%) and highest (23.5%) in Germany based studies conducted by the same author (Goergen, 2001, 2004). It can be noticed from the findings above, that lack of common measurement tool can create a wide discrepancy in the results

The most frequent acts of physical mistreatment perpetrated by nursing staffs were restraining the residents (Goergen, 2001, 2004; Malmedal et al., 2009; Pillemer & Moore, 1989; Schiamberg et al., 2012). The acts involved use of chemical and mechanical restraints (Goergen, 2004), excessive restraining, forceful holds of residents (Goergen, 2001; Malmedal et al., 2009) to decrease workloads, pushing, grabbing, shoving, and pinching of residents (Pillemer & Moore, 1989). Resident to resident EM involved activities like pushing, grabbing, and pinching which was observed by 94% of nursing staffs and acts like pulling hair and kicking was observed by 47% (Castle, 2012). Similar findings were present in a resident to resident mistreatment study where hitting and pushing were the most common acts of physical mistreatment (Lachs et al., 2016). However, the prevalence was comparatively lower i.e. 11.3% for hitting and 10.3% for pushing.

**The prevalence of psychological or emotional mistreatment**

In almost all studies that examined multiple types of EM, the prevalence of psychological mistreatment was higher than all other types (Ben Natan et al., 2010; Castle, 2012; Goergen, 2001, 2004; Lachs et al., 2016; Malmedal et al., 2009; Pillemer & Moore, 1989). The study by Pillemer and Moore (1989) showed that 81% of nursing staffs had observed at least one incident of psychological mistreatment conducted by their colleagues in the past year. Likewise, 61.8% of nursing staffs had observed and 53.7% themselves committed at least one incident of psychological EM in German nursing homes (Goergen, 2004). A study in Israel by Ben Natan et al. (2010), showed that 23% of nursing staffs committed psychological EM in the past year. Resident to

resident psychological EM was 97% in the past three months as reported by the nursing staffs in a study in the USA (Castle, 2012).

The frequent acts of psychological mistreatment perpetrated by nursing staffs were acts like yelling at resident (Goergen, 2001, 2004; Pillemer & Moore, 1989), ignoring residents with the intention (Goergen, 2004), entering the resident's room without knocking and talking disrespectfully (Malmedal et al., 2009). Acts of mistreatment in resident to resident mistreatment studies were the behaviors like yelling and providing insulting remarks (Castle, 2012; Lachs et al., 2016).

**The prevalence of financial mistreatment**

Financial mistreatment is reported to be quite lower than other forms of EM in nursing homes. The prevalence of financial mistreatment or material exploitation were identified in only three studies(Ben Natan et al., 2010; Castle, 2012; Harris & Benson, 1999). None of the nursing staffs (0%) committed that they perpetrated financial mistreatment on older residents in nursing homes in two studies (Ben Natan et al., 2010; Malmedal et al., 2009). However, a study that aimed at identifying theft in nursing homes, showed that 1.3% nursing staffs reported that they stole valuables from older residents, 25.4% had either observed or suspected a colleague of stealing and 40% of family members believed that nursing staffs were responsible for stealing the missing valuables from the older residents in nursing homes (Harris & Benson, 1999). Castle (2012) discovered that 69% of residents committed material exploitation of other residents in nursing homes. The number of studies is however too few to generalize the prevalence of financial mistreatment in nursing homes.

**The prevalence of sexual mistreatment**

Five studies have shown the prevalence of sexual mistreatment in nursing homes (Ben Natan et al., 2010; Castle, 2012; Goergen, 2004; Lachs et al., 2016; Schiamberg et al., 2012). In the study by Castle (2012), the prevalence of sexual mistreatment by another resident was observed by nursing aides to be 77% prevalent. The prevalence of sexual EM in nursing homes by nursing staffs was 11% according to a study that had family members of older residents as respondents (Schiamberg et al., 2012). However, other studies have the relatively lower prevalence of sexual EM. Lachs et al. (2016) found out the prevalence of resident to resident sexual EM to be 1.3% with 95% CI (0.9-2.0). In a comparable manner, two other studies reported sexual EM to be 0.1% prevalent as

reported by nursing staffs themselves (Ben Natan et al., 2010; Goergen, 2004). Malmedal et al. (2009) removed the questionnaires regarding sexual mistreatment after the pilot study as these turned out to be irrelevant in relation to face validity.

**The prevalence of neglect**

Five studies have reported the prevalence of neglect in care and almost all studies have the higher prevalence (Ben Natan et al., 2010; Goergen, 2001, 2004; Malmedal et al., 2009; Zhang et al., 2011). The prevalence of neglect reported by nursing staffs was found to be higher in the study conducted in Israel by Ben Natan et al. (2010), where the prevalence was 64.3%. The authors had categorized neglect into physical neglect and mental neglect where the prevalence were 30.2% and 34.1% respectively (Ben Natan et al., 2010). A study in Norway conducted by Malmedal et al. (2009) showed that negligence in the oral care was the most frequently conducted act of neglect. 64% of nursing staffs reported neglecting the oral care of residents and 67% reported observing this act committed by a colleague (Malmedal et al., 2009). 67% nursing staffs had observed that colleague ignored residents and delayed necessary care for a longer time than required (Malmedal et al., 2009) and 55% had delayed necessary care themselves. Similarly, a Germany based study by Goergen (2001) stated that the most common form of neglect in care witnessed by nursing staffs was not shaving resident's face (33.8%) and the most common self-reported neglectful act was intentionally ignoring resident (35.1%). Another study from Germany showed the most frequent act of neglect reported by nursing staffs was not changing the position of bedridden residents to prevent bed sores, with a prevalence of 29.1% (Goergen, 2004). Similar to the study in Norway by Malmedal et al. (2009), this study (Goergen, 2004) found that nursing staffs neglected resident's oral hygiene frequently (28%) but the prevalence was much lower than Norwegian study.

A study that had a focus on identifying neglect in nursing homes with family members as respondents showed that 21% of residents were neglected at least once in last 12 months (Zhang et al., 2011). This study also showed that the risks of being neglected increased (increased in odds with 1.30) with the increased limitation in ADL (Zhang et al., 2011). Based on findings above, it can be illustrated that neglectful activities in nursing homes tends to occur frequently than family members can observe. Nursing staffs might be the better sources to identify the neglect of care than family members as family members tended to underreport this problem.

## DISCUSSION

The aim of this review was to identify the problem of EM in nursing homes in term of its prevalence. The prevalence of EM in nursing homes was found to be higher than the figures in community settings provided by WHO (Dong, 2014) which was 1% to 35%. This systematic review study showed that the overall prevalence of at least one form of EM was 1.53% to 79%, much higher in upper limit than WHO estimation. Similarly, the one-month prevalence of EM in nursing homes was identified to be 20.2% by a study (Lachs et al., 2016) which was higher than the one-month prevalence of EM in general population which was 6% (Cooper et al., 2008). The findings of this review, thus, support the fact by World Health Organization (2018) that EM is more prevalent in institutional settings than in community settings.

The finding of this systematic review was similar to the review study by Cooper et al. (2008) which showed that 80% of nursing staffs reported that they had observed EM committed by others. Similar result was found in this review, where the one-year prevalence of observed EM by nursing staffs ranged from 66% to 81%. In almost all the studies that involved nursing staffs as respondents, they reported that they observed the acts of EM more frequently than they committed the acts themselves (Goergen, 2001, 2004; Harris & Benson, 1999; Malmedal et al., 2009; Pillemer & Moore, 1989). There was a remarkable difference between the prevalence of EM observed by the nursing staffs and prevalence of EM reported to be committed by themselves. This leads to the presumption that there is a need of interventional research that should be carried out to investigate whether nursing staffs can be motivated into reporting observed acts of mistreatment to authorities through interventions. There is also the necessity of studies that aim in finding out the reasons of non-reporting of EM despite being observed by nursing staffs.

The search in this review identified only two studies (Castle, 2012; Lachs et al., 2016), that measured RREM in nursing homes and both were the USA bases studies. Therefore, it was difficult to generalize the prevalence of RREM. There was a wide variation in the results of these two studies despite both having acceptable sample size (Table 3&5). However, the study methods and measurement tools of those studies were different. This finding indicates that there is a need for more studies that measures RREM in nursing homes and there is also a need for standard measurement instruments for identifying RREM.

The prevalence of at least one form of physical mistreatment, psychological mistreatment, and neglect committed by nursing staffs ranged from 6% to 23.5%, 23% to 78% and 21% to 62% respectively. These findings indicate that the psychological/emotional EM is the most common form of EM in both community and nursing homes (Ho et al., 2017). These findings also indicate that unethical and inhumane practices in nursing homes might be 'highly prevalent'. If so, the findings of this systematic review also indicate that nursing homes possibly fail to provide dignified care to the older people at the end of their lives. There might be no doubt that this kind of practices in nursing homes is a severe problem that should be recognized by the authorities.

Literature have shown that there is an inconsistency between the measurement tools in literature for the measurement of EM (Dong, 2015). The inconsistency of measurement tools was also evident in this review. None of the studies included in this review used common tools for measuring EM. For example, the study by Ben Natan et al. (2010) aimed in determining EM with an objective to identify the prevalence of five types of mistreatment: physical mistreatment, psychological mistreatment, sexual mistreatment, financial exploitation, and neglect. Whereas, the study by Goergen (2004) aimed in measuring EM using seven classifications of mistreatment: physical mistreatment, psychological mistreatment, inappropriate use of mechanical restraints, inappropriate use of chemical restraints, neglectful care, psychosocial neglect and sexual abuse. Pillemer and Moore (1989) studied only physical and psychological mistreatment, whereas, Malmedal et al. (2009) expressed that inadequate care would be the proper terminology to address EM in Norwegian context and had four classifications of mistreatment: emotional mistreatment, physical mistreatment, financial mistreatment, and neglect. These findings support the statements by (Dong, 2015; Falk et al., 2012; Lachs & Pillemer, 1995) that concepts, definitions, and measurement tools vary in the literature of EM that yields inconsistent and ungeneralizable results.

The findings from this review study also support the speculation by Nerenberg (2008) that, the most frequently used definitions of EM in literature do not conceal every aspect of EM. For example, the definition of EM by WHO, AEA and have stated that EM is perpetrated by one in a trusted relationship. Likewise, Bonnie and Wallace (2003) have defined EM as an act of failure by caregivers in attending needs of older people. These two definitions, however, does not include the mistreatment perpetrated by other residents which were noticed to be an important aspect of EM in nursing

homes. These definitions seem to be irrelevant to include in the studies where the context is nursing home. Abusers or perpetrators of mistreatment are not necessarily the people in the trusted relationship, as stated in the definitions. It was apparent that people who are outside the domain of trusted relationship, like other residents living together in nursing homes are also the maltreaters or abusers. Similarly, Nerenberg (2008) had questioned whether self-neglect is one of the types of EM; and whether to use the concept of self-neglect inside the sphere of EM. It was realized that none of the studies included in this review had encompassed self-neglect in the domain of EM.

**Methodological strengths and weaknesses of this review**

This review study is established on a pre-written research protocol. A pre-defined research protocol with pre-defined research question and inclusion criteria is substantial to produce a decent quality systematic review (Aromataris & Munn, 2017; Boland et al., 2014; Hamel et al., 2007). In addition, language restriction and publication bias are considered to be the factors that can cause underreporting of issues in a systematic review (Hamel et al., 2007). The publication bias is not determined in this review and language restriction persists because only the empirical studies in English are included. Assessment of quality of scientific studies and selection of appropriate methods used for combining the findings are two of the major factors that determine the quality of systematic review (Hamel et al., 2007). The studies in this systematic review were critically assessed with the help of critical appraisal tools by the Joanna Briggs Institute for the systematic review of the incidence and prevalence studies (Munn et al., 2017). This helped in strengthening the quality of this systematic review. Likewise, assessment of the studies for heterogeneity was done with the help of a statistician to figure out whether the meta-analysis or the narrative analysis is the appropriate method for analysis for this systematic review. The selection of appropriate method of data analysis also helped in increasing the methodological strength of this systematic review. Similarly, considering the review of prevalence studies, it is recommended that two reviewers conduct own searches and assessment of qualities of studies (Munn et al., 2017). The search and assessment of qualities of studies are done by a single reviewer which may weaken the methodological quality of this review. However, to minimize this bias, the search was run twice by the reviewer under supervision and followed up by a specialized librarian.

Unfortunately, the findings of this review cannot be generalized globally because of the dominance of the USA based studies. Seven out of the twelve studies in this review were from the USA. In addition, this systematic review is centered around EM in nursing home settings. It does not address the issues of mistreatment in other long-term care territories aside from nursing homes like assisted living, home nursing care and day care centers. This review study does not inculpate the issue of mistreatment of younger residents receiving care in nursing homes.

## CONCLUSION

Elder mistreatment is prevalent not only in the community but also in specialized institutions like nursing homes. Considering the prediction of huge increment in elder population in near future, it is important to address the issue of EM in present to ensure an ethical and quality care to our elders now and in future. From this systematic review, it can be concluded that the most frequently practiced form of elder mistreatment in nursing homes are psychological mistreatment, physical mistreatment and neglect. Similarly, there are two major sources of EM in nursing homes: nursing staffs and co-residents. It was observed through this systematic review that the prevalence of EM was higher in nursing homes than in community settings. It was also evident that literature in elder mistreatment in nursing homes is dominated by the USA based studies. Therefore, it was difficult to generalize the findings globally. It was also observed that there were inconsistencies in concepts and definitions of elder mistreatment in almost all studies. Inconsistency was also present in defining types of elder mistreatment that made it difficult to calculate pooled-prevalence through meta-analysis. Likewise, it was also noticeable in this systematic review that there was lack of standard measurement instrument for the detection of elder mistreatment in nursing homes.

## IMPLICATIONS FOR PRACTICE, POLICIES AND RESEARCH

Addressing the issue of EM in nursing homes through this systematic review was important because it provided evidence to the fact that there is an extreme lack of literature in elder mistreatment, especially mistreatment in institutional settings. On the evidence of the available literature on EM in nursing homes, this review can help in creating awareness to nursing practitioners, other health care practitioners, policymakers, and researchers that EM is highly prevalent inside the nursing homes.

The review suggests the researchers, authorities, and policymakers to develop a standard definition of EM and standard measurement tools for measuring EM in institutional settings like nursing homes. It is important that the authorities focus on building up prevention strategies for EM. It was also evident in this review that there is a lack of primary studies that identify the prevalence and the risk factors of EM in nursing homes. Therefore, the researchers are suggested to conduct more primary studies that aim at identifying EM in nursing homes to address the research gap in the field of elder care.

## CONFLICT OF INTEREST

There is no conflict of interest to declare. No financial support was received to conduct this research.

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**TABLES AND FIGURES**

**Table 3**. Studies on elder mistreatment with nursing staffs as respondents

| Study and Country | Study design/method | Sample (n) | Mistreatment measure | Response rate | Prevalence period | Source of mistreatment | Prevalence of elder mistreatment in nursing homes |
|---|---|---|---|---|---|---|---|
| (Pillemer & Moore, 1989), USA | Quantitative retrospective study; telephone interview | (n=691) 30% of staff members of 31 nursing homes were selected for the study, where 85% agreed to participate, resulting in final sample of 577. | Conflict Tactics Scale (CTS) + own items | 85% | 1-year | Nursing staffs | 1-year prevalence of physical abuse conducted by other staffs, observed by participant nurses was 36% and self-conducted abuse was 10%. Prevalence of observed psychological abuse 81% and self-reported psychological abuse was 40%. |
| (Saveman et al., 1999), Sweden | Retrospective study, questionnaires | (n=640) Nursing staffs: registered nurses, enrolled nurses and nursing aides working in residential settings. | Own questions | 78% | 1-year | Nursing staffs | 1-year prevalence of total abusive incidents known by respondents was 11%. Among them, 67% nursing home staffs. 1-year prevalence of self-conducted abuse was 2% and 91% of them nursing home staffs. Physical and psychological abuse were the most frequent forms of abuse. |
| (Castle, 2012), USA | Descriptive-retrospective study, questionnaires | (n=6,606) Nurse aides working full-time, all-shifts in nursing homes | Own questions | 67% | 3-months | Other residents living together in nursing homes | 3-months prevalence of at least one form of resident-to-resident abuse, observed by nurse aides was 97%. Prevalence of at least one from of physical abuse, psychological abuse, material abuse and sexual abuse were 94%, 91%, 69%, 77% respectively. |
| (Goergen, 2001), Germany | Multi-method study | (n=390) Nursing home staffs: qualified nurses, nurse aides, nursing apprentices, trainees, conscientious objectors, young volunteers and social workers. | Modified questions from various studies | 20.4% | 1-year | Nursing staffs | 1-year prevalence of at least one incident of resident mistreatment by nursing staffs was 79%. One out of three nursing staffs neglected care on one or more occasions. 1-year prevalence of observed abuse conducted by colleagues was 66%. Yelling to the residents was the most frequent form of abuse witnessed. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (Ben Natan et al., 2010), Israel | Correlational quantitative method | (n=600) nursing staffs and (n=24) facility directors | Questionnaires divided into 5 parts, first part consisted of demographic information of respondents, part 2,3 and 4 were based on two standard scales and part 5 was also developed using standard scales of measurement of burnout | 85% for nursing staffs and 91.6% for directors | 1-year | Nursing staffs | 1-year prevalence of self-reported mistreatment of one or more types of mistreatment by nursing staffs were 53.5%. The most common type of mistreatment was mental and physical neglect, 34.1% and 30.2% respectively. One-year prevalence of mental mistreatment was 23% and physical mistreatment was 12.25%. Sexual violence and financial exploitation was very low with prevalence of 0.1%. |
| (Malmedal et al., 2009) | Questionnaire survey study | (n=780), final sample 616 | Own questions designed after pilot study to ensure face validity | 79% response rate | Not mentioned. Measured EM according to frequency ranging from never to once a week or less, more than a week and once a month or less. | Nursing staffs | 91% reported that they had observed at least one form of mistreatment perpetrated by colleagues and 87% admitted that they committed the mistreatment themselves. The most prevalent form of mistreatment was emotional mistreatment which was observed by colleagues to be 84% and self-conducted by 69%. The least prevalent form of mistreatment was financial, observed by 1% and reported to be self-conducted by 0 %. |

**Table 4.** Studies on elder mistreatment with family members as respondents

| Study and Country | Study design/method | Sample (n) | Mistreatment measure | Response rate | Prevalence period | Source of abuse | Prevalence of elder abuse in nursing homes |
|---|---|---|---|---|---|---|---|
| (Zhang et al., 2011), USA | Quantitative survey | (n=414) Family members of older adults living in nursing homes | Own questions | Not stated | 12-month | Nursing home staffs | 12-month incidence of neglect reported by family members was 21%. |
| (Schiamberg et al., 2012), USA | Cross-sectional retrospective study | (n=452) Family members of older adults receiving long term care in nursing homes | Own questions | Not stated | 12-month | Caregivers in nursing homes | One-year incidence of physical abuse by caregivers in nursing homes, as described by family members showed that, 24.3% of older adults were subjected to physical abuse in nursing homes. The most frequent form of physical abuse, observed by family members was forceful use of restraint, was 62% of the total abuse. |

**Table 5.** Mixed-method studies that have single or multiple sources

| Study and Country | Study design/method | Sample (n) | Mistreatment measure | Response rate | Prevalence period | Source of abuse | Prevalence of elder abuse in nursing homes |
|---|---|---|---|---|---|---|---|
| (Lachs et al., 2016), USA | Observational prevalence study<br>Residents who could provide consent and respond were interviewed. Family members provided consent for those who could not. Residents who could not respond were observed by researches. In addition, other methods like interview of staffs, chart review, shift coupons and study of accident and incident reports were used to collect data for all residents. | (n=2011)<br>Long-stay residents living in nursing homes | Own questions, observations, and analysis of various reports | Not stated | 4-weeks | Other residents living together in nursing homes | 4-weeks prevalence of resident-to-resident elder mistreatment in nursing homes was 20.2% (95% CI- 18.1% to 22.5%). Verbal R-REM was the most usual form of mistreatment, 16.0%. The least common form of mistreatment was sexual mistreatment, 1.3%. |
| (Goergen, 2004), Germany | Mixed method study; questionnaires and analysis of reports on abuse | 251 interviews in 8 nursing homes on nursing home staffs, residents and other people;<br>Questionnaire survey on 27 nursing homes (n= 361 nursing staffs), analysis of 35 cases of public | CTS and instruments by (Pillemer & Moore, 1989) | 36% for questionnaire survey | Analysis of cases from public prosecutor's records from last 8 months;<br>Life-time prevalence in interview;<br>and 1-year prevalence period for | Nursing staffs | Life-time prevalence: 76.5% nursing staffs had observed and 70.4% had been actors for at least one behavior of mistreatment.<br>1-year prevalence of at least one form of abuse: 71.2% had observed at least one form of EM by a colleague, 71.5% had abused older people themselves. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | prosecutor's files and survey of 188 cases in nursing home control agency | | | questionnaire survey | | |
| (Harris & Benson, 1999), USA | Mixed method: quantitative and qualitative, questionnaires distributed to care staffs and family members | 52 nursing homes (47 agreed to participate) Final sample was 1116, 22% of initial sample (number not provided) | Own questionnaires on self-reports and observations | 22% for care staffs | 1-year | Care staffs | 1.53% of total care staff respondents self-reported of stealing from older residents. 25.4% staffs had observed or suspected colleagues/other staffs of stealing belongings to residents.<br><br>47% of family members had noticed that residents were missing their belongings and 40% believed that they were stolen by staffs |

**Table 6.** Elder mistreatment identified through other sources

| Study and Country | Study design/method | Sample (n) | Mistreatment measure | Response rate | Prevalence period | Source of abuse | Prevalence of elder abuse in nursing homes |
|---|---|---|---|---|---|---|---|
| (Allen et al., 2004), USA | Retrospective case record study | 269 cases of elder abuse and 791 cases of care complaints from nursing homes were reported in Connecticut's Ombudsman's Program | Study of records | N/A | 2-year Cases registered from July 1998 to July 2000 | Nursing staffs | 69% of 261 facilities in the state had one or other account for care complaints, and the most usual form of complaint was not following care plan. Similarly, 47% of 261 facilities were accused of abuse, where the most frequent form of abuse complained was physical abuse i.e. 41% of all abuses. Prevalence of gross neglect and verbal abuse were 19%, both. 10 facilities had 5 and more complaints of abuse, and 18 facilities had 10 and more complaints of care. |

**Figure 1**

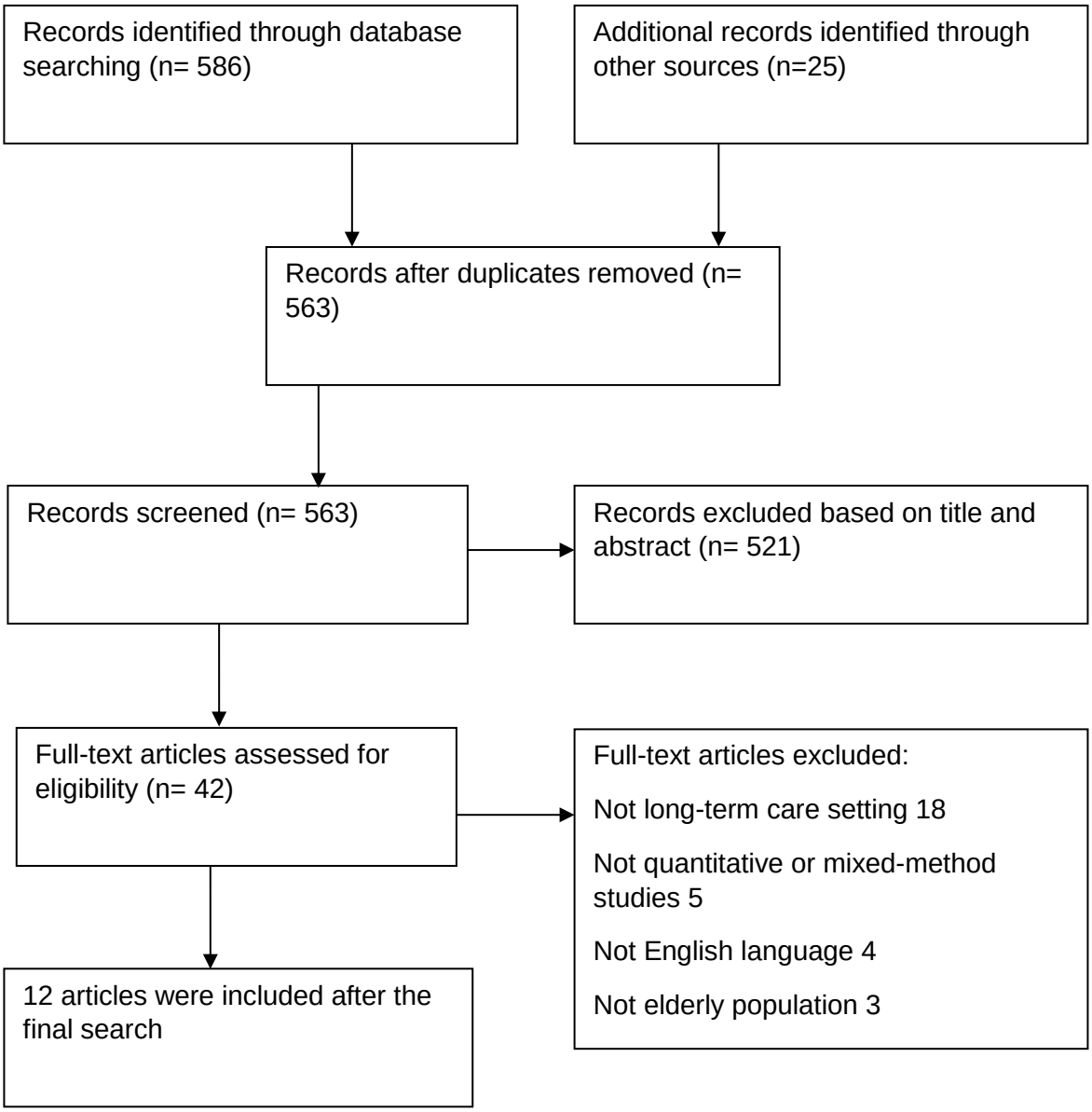


Figure 1 PRISMA flow chart showing study selection process (Moher, Liberati, Tetzlaff, & Altman, 2009)

## APPENDICES

Appendix I: The systematic search and outcomes in various databases

Appendix II: Extraction of data from the studies selected for review

Appendix III: Critical evaluation of the studies included in review

Appendix IV: Author Guidelines

**Appendix I:** The systematic search and outcomes in various databases

| **Databases** | **Terms** | **Hits** | **Source type** |
|---|---|---|---|
| CINAHL | S1. Abuse or (neglect or Elder abuse or elder maltreatment or elder mistreatment or resident abuse or patient abuse or patient maltreatment) | 71905 | Academic J |
| Scopus | S1. Abuse or (neglect or Elder abuse or elder maltreatment or elder mistreatment or resident abuse or patient abuse or patient maltreatment) | 329654 | |
| MEDLINE | S1. Abuse or (neglect or Elder abuse or elder maltreatment or elder mistreatment or resident abuse or patient abuse or patient maltreatment) | 173656 | |
| CINAHL | S2. Nursing home or (long term care or long-term care facilities) | 57979 | |
| Scopus | S2. Nursing home or (long term care or long-term care facilities) | 170668 | |
| MEDLINE | S2. Nursing home or (long term care or long-term care facilities) | 69749 | |
| CINAHL | S3. Incidence | 86953 | |
| Scopus | S3. Incidence | 1097362 | |
| MEDLINE | S3. Incidence | 744618 | |
| CINAHL | S4. Prevalence | 95299 | |
| Scopus | S4. Prevalence | 830080 | |
| MEDLINE | S4. Prevalence | 598983 | |
| CINAHL | S1 and S2 and S3 | 28 | |
| Scopus | S1 and S2 and S3 | 160 | All |
| Scopus | S1 and S2 and S3 | 92 | Articles and in English |
| MEDLINE | S1 and S2 and S3 | 58 | |
| CINAHL | S1 and S2 and S4 | 57 | |
| Scopus | S1 and S2 and S4 | 312 | All |
| Scopus | S1 and S2 and S4 | 168 | Articles and in English |
| MEDLINE | S1 and S2 and S4 | 89 | |

Search strategy PsycINFO

| # | Searches/Keywords | Search results |
|---|---|---|
| 1 | exp Elder Abuse/ | 1498 |
| 2 | abuse.mp. | 156461 |
| 3 | Elder mistreatment.mp. | 257 |
| 4 | Elder maltreatment.mp. | 57 |
| 5 | Resident abuse.mp. | 18 |
| 6 | Patient abuse.mp. or exp Patient Abuse/ | 239 |
| 7 | patient maltreatment.mp. | 6 |
| 8 | 1 or 2 or 3 or 4 or 5 or 6 or 7 | 156480 |
| 9 | neglect.mp. | 21423 |
| 10 | 8 or 9 | 168359 |
| 11 | nursing home.mp. or exp Nursing Homes/ | 10741 |
| 12 | exp Long Term Care/ or long-term care facilities.mp. | 5104 |
| 13 | 10 and 11 | 257 |
| 14 | 10 and 12 | 185 |
| 15 | incidence.mp. | 46918 |
| 16 | prevalence.mp. | 102666 |
| 17 | 10 and 11 and 15 | 8 |
| 18 | 10 and 12 and 15 | 7 |
| 19 | 10 and 11 and 16 | 31 |
| 20 | 10 and 12 and 16 | 16 |

Search strategy Cochrane Library

| # | Searches/Keywords | Search results | Types of studies |
|---|---|---|---|
| 1 | Elder Abuse | 65 | |
| 2 | Elder mistreatment | 9 | |
| 3 | Elder maltreatment | 4 | |
| 4 | Abuse | 10855 | |
| 5 | Resident abuse | 224 | |
| 6 | Patient abuse | 4153 | |
| 7 | patient maltreatment | 40 | |
| 8 | neglect | 1008 | |
| 9 | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 | 11475 | |
| 10 | Nursing home | 6318 | |
| 11 | Long term care | 23911 | |
| 12 | long term care facilities | 1498 | |
| 13 | #10 or #11 or #12 | 28543 | |
| 14 | incidence | 86520 | |
| 15 | prevalence | 30623 | |
| 16 | #9 and #13 and #14 | 794 | All |
| 17 | #9 and #13 and #14 | 12 | Trials |
| 18 | #9 and #13 and #15 | 782 | All |
| 19 | #9 and #13 and #15 | 20 | Trials |

**Appendix II:** Extraction of data from the studies selected for review

Extracted following the guidelines of the JBI Data Extraction Form for Prevalence Studies (Aromataris & Munn, 2017)

| **Citation details** | |
|---|---|
| Author: | **(Goergen, 2004)** |
| Title: | A multi-method study on elder abuse and neglect in nursing homes |
| Journal: | The Journal of Adult Protection |
| Year: | 2004 |
| Issue: | 3 |
| Volume: | 6 |
| Pages: | 15-25 |
| **Generic Study Details** | |
| Study design: | Qualitative and quantitative study. It is a mixed method study that used interview, questionnaires and analysis of known cases of elder abuse and neglect to legal agency and nursing home control agency. |
| Country: | Germany |
| Setting/Context: | 8 nursing homes randomly selected in the Federal state of Hesse in Central Germany |
| Year/time frame for data collection: | Interviews were conducted in 1999/2000. Questionnaires were distributed in 2001. Cases from 1993-2000 from public prosecutor's files were analyzed and cases within 8 months period in the year 2000 from nursing home control agency staff. |
| Participant Characteristics (study inclusion/exclusion information): | Participants in this study are nursing staffs, management staffs, residents, other staffs such as volunteers, family members of residents, external agencies like doctors, legal prosecutors and state survey agencies. However, there is no clear statement of inclusion and exclusion criteria. |
| Condition and measurement method: | Interview of residents, nursing home staffs, management staffs, other staffs- volunteers, social workers, relatives of residents, doctors, legal guardians, clergy and state survey agencies was conducted. Nursing home staffs were distributed questionnaires and analysis of reports on abuse from law enforcement and nursing home control agencies were done in this study. Questionnaires were developed based on Conflict Tactics Scale (CTS) and Pillemer & Moore (1989,1990) instrument for abuse and neglect. |

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| Description of main results (n/N): | The life-time prevalence reported by nursing staffs as observers of abuse was 76.5% and life-time prevalence of nursing staffs being abusive themselves was 70.4%. In the same manner, 1-year prevalence of at least on form of abuse by colleagues, observed by nursing staffs was 71.2%. 1-year prevalence of self-reported EM by nursing staffs was 71.5%. 59.6% had observed neglectful care during last 12 months, and 53.7% had neglected care themselves. The most frequent form of nurse-reported abuse was yelling at resident i.e. 31%, whereas, 40.7% colleagues knew the cases where nurses beat resident. |

| **Citation details** | |
|---|---|
| Author: | **(Pillemer & Moore, 1989)** |
| Title: | Abuse of Patients in Nursing Homes: Findings from a Survey of Staff |
| Journal: | The Gerontologist |
| Year: | 1989 |
| Issue: | 3 |
| Volume: | 29 |
| Pages: | 314-320 |
| **Generic Study Details** | |
| Study design: | Quantitative retrospective study |
| Country: | The United States of America |
| Setting/Context: | 31 nursing homes, both, intermediate nursing homes and skilled nursing facilities in a state of USA. |
| Year/time frame for data collection: | February-April 1987 |
| Participant Characteristics (study inclusion/exclusion information): | 30% of staff members (n= 691) of 31 nursing homes were selected for the study, where 85% agreed to participate, resulting in final sample of 577. 61% of the sample were nursing aides, 20% were licensed nurses and 19% were registered nurses. Mean length of employment was 7.5 years, 97% women, age ranged from 16-64 years. |

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| | There was a clear mention of inclusion and exclusion criteria. The nursing homes that previously participated in pilot study and nursing homes with small number of beds, < 15 were excluded. |
| Condition and measurement method: | Data for abuse in nursing homes were collected through telephone interviews. Abuse was measured with the focus on two forms of abuse: physical and psychological. Questionnaires were developed on the basis of CTS, with modification by authors, including the items that were more specific to the context- nursing homes. |
| Description of main results (n/N): | p.316-317 Results in the study are presented as observed and committed abuse by the staffs. While 36% of staffs observed at least one form of physical abuse during last year, 10% committed one or more physical abuse themselves. Likewise, 81% of staffs had observed at least one psychological abuse last year and 40% had abused patients psychologically. Restraining patients was most frequent physical abuse and yelling was the most usual form of psychological abuse. |

| **Citation details** | |
|---|---|
| Author: | **(Allen et al., 2004)** |
| Title: | Elder Abuse in Connecticut's Nursing Homes |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2008 |
| Issue: | 1 |
| Volume: | 15 |
| Pages: | 19-42 |
| **Generic Study Details** | |
| Study design: | p.28 Retrospective study of abuse cases in nursing homes registered in Connecticut Ombudsman Program into a system called Ombudsman Reporting System (ORS) |
| Country: | The United States of America |
| Setting/Context: | p.29 Complaints on elder abuse from all nursing homes in Connecticut state of the United States. registered in Connecticut's Ombudsman. A total of 261 cases of abuse. |

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| Year/time frame for data collection: | Data from July 1998 through July 2000 |
| Participant Characteristics (study inclusion/exclusion information): | 269 cases of abuse and 791 cases of care from a total number of cases (3443), received by Ombudsman in Connecticut state were selected for the study. |
| Condition and measurement method: | p.29 During the selection of the cases, two sub-categories abuse and care were used to quantify data. Abuse consisted of the complaints of physical abuse, gross neglect, resident-to-resident abuse and financial exploitation; whereas, care comprised of complaints of accidents and improper treatment, neglect of catheter, failure in attending symptoms, answering bells. Regarding validity of abuse complaints, 90% validity was confirmed through Ombudsman office to be true cases and where 87% cases were proven through investigation. No other validity tools were used. |
| Description of main results (n/N): | p.31 Out of total 3443 complaints received by Ombudsman in Connecticut state, 269 cases of abuse and 791 cases of care complaints were selected for the study. i.e. 23% of those were care complaints and 8% were complaints of abuse. All nursing homes (n=261) in Connecticut were involved in the data. 69% of 261 facilities in the state had one or other account for care complaints, and the most common form of complaint was not following care plan. Similarly, 47% of 261 facilities were accused of abuse, where the most frequent form of abuse complained was physical abuse i.e. 41% of all abuses. Gross neglect and verbal abuse were 19%, both. 10 facilities had 5 and more complaints of abuse, and 18 facilities had 10 and more complaints of care. |

| **Citation details** | |
|---|---|
| Author: | **(Zhang et al., 2011)** |
| Title: | Neglect of Older Adults in Michigan Nursing Homes |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2011 |

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|---|---|
| Issue: | 1 |
| Volume: | 23 |
| Pages: | 58-74 |
| **Generic Study Details** | |
| Study design: | Quantitative survey |
| Country: | The United States of America |
| Setting/Context: | This survey was conducted among the non-institutionalized civil adults whose family members are living in nursing homes in Michigan state in the United States of America. |
| Year/time frame for data collection: | The telephone interviews were conducted in three months, during October, November and December 2005. |
| Participant Characteristics (study inclusion/exclusion information): | Participants of the study were adults in Michigan state who had their relatives or family members 65 years or above in age, living in nursing homes. Average age of older adults living in nursing homes were 84. The cases with missing reports or missing independent variables were excluded from the study.<br>p.65 79 percent of the older adults had cognitive difficulties and 22 percent were physically or verbally abusive and resisted care. |
| Condition and measurement method: | p.65 Neglect was measured using a binary variable in this study. A value was given 0 if no neglect was reported and a value of 1 if one or more occasions of neglect reported. The questionnaires for the outcome measurement were self-developed based on previous literature. |
| Description of main results (n/N): | p.68 21 percent of family members, in this survey, reported neglect on one or more occasions in the past year. Family members who visited lesser their relative in nursing homes, reported lesser incidents of neglect. In this study, there was no any significant link between the sociodemographic variables of older adults and neglect. Limitations in activities of daily living (ADL) was associated with risk of being neglect. |

| **Citation details** | |
|---|---|
| Author: | **(Schiamberg et al., 2012)** |
| Title: | Physical Abuse of Older Adults in Nursing Homes: A Random Sample Survey of Adults with an Elderly Family Member in a Nursing Home |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2012 |
| Issue: | 1 |
| Volume: | 24 |
| Pages: | 65-83 |
| **Generic Study Details** | |
| Study design: | Cross-sectional, retrospective study |
| Country: | The United States of America |
| Setting/Context: | Households of family members/relatives of older adults 65 years and older receiving long term care in nursing homes in Michigan state. |
| Year/time frame for data collection: | 3 months period- October, November and December 2005 |
| Participant Characteristics (study inclusion/exclusion information): | The participants of the telephone survey were 11 to 97 years or older in age, most of them (41.6%) were children of nursing home residents, and the older adults living in nursing homes were 65 years and older.<br>p.75 The older people in nursing homes 85 years and older were 47.6 percent where 73.2 percent were females and 83.7 percent had limited activities of daily living (ADL). |
| Condition and measurement method: | p.72 Binary variables were set for the measurement of physical abuse where the value of 0 stood for no abuse and the value of 1 stood for one or more types of physical abuse reported. Similarly, number of abuse ranged from 0 to 1-2, 3-5, 6-10, >10 and don't know/refuse. Self-developed questionnaires were used for this study and there was no used of valid instrument for outcome measurement. |
| Description of main results (n/N): | In this survey, age was the only demographic variable significant to physical abuse by both staffs and non-staffs (residents). The overall prevalence of physical abuse in nursing homes was 24.3%. older adult behavioral problems were significantly related to the physical abuse in nursing homes in this study. |

| **Citation details** | |
|---|---|
| Author: | **(Saveman et al., 1999)** |
| Title: | Elder Abuse in Residential Settings in Sweden |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 1999 |
| Issue: | 1-2 |
| Volume: | 10 |
| Pages: | 43-60 |
| **Generic Study Details** | |
| Study design: | Retrospective study, A mixed-method study |
| Country: | Sweden |
| Setting/Context: | Study was carried out in residential settings in two municipal areas in Sweden. There is no clear definition of residential settings in literature, but it seems to identify and categorize residential settings as ordinary home care by nursing staffs, sheltered housing, group-dwelling and nursing homes. |
| Year/timeframe for data collection: | Questionnaires were distributed to the respondents by the manager shortly after an information meeting and collected after three weeks. |
| Participant Characteristics (study inclusion/exclusion information): | Participants of the study were nursing staffs: registered nurses, enrolled nurses and nursing aides working in sheltered housing, nursing homes, group dwellings and older people's homes. 93% of the participants were female and average age of participants were 40 years, holding current position in care for past seven years in average. |
| Condition and measurement method: | p.49 Participants were provided questionnaires that included both multiple choice questions and open-ended questions. There is no mention about how the questionnaires were developed. It seems that no any valid tools for outcome measurement were used. It is not mentioned how definitions for abuse were derived for the questionnaires which confirms low objectivity of the measurement. |

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| Description of main results (n/N): | The setting of this study is not limited to nursing homes, it has studied frequencies and types of abuse reported by nursing staffs in residential settings. However, only the data of abuse in nursing homes are displayed here, due to its relevance to this study.<br>In this study, in total 11% of respondents knew at least one abusive incident during the past year. Among them, 67% staffs were working in nursing homes. It displays that most of the abuse among residential settings, occurred inside nursing homes. 2% of total respondents admitted being abusive themselves during the past year and 91% of those respondents were nursing home staffs. Physical and psychological abuse were the most frequent form of abuse that were reported.<br>Abuse by staffs was most common in nursing homes among all residential settings. This may also be due to the overrepresentation of nursing homes staffs in sample, 54% of total sample were nursing home staffs. |

| **Citation details** | |
|---|---|
| Author: | **(Goergen, 2001)** |
| Title: | Stress, Conflict, Elder Abuse and Neglect in German Nursing Homes: A Pilot Study Among Professional Caregivers |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2001 |
| Issue: | 1 |
| Volume: | 13 |
| Pages: | 1-26 |
| **Generic Study Details** | |
| Study design: | A multimethod pilot study using qualitative interviews and questionnaire survey |
| Country: | Germany |
| Setting/Context: | Nine nursing homes in federal states of Saxony and Hesse in Germany were selected using convenience sampling to identify elder abuse and neglect in nursing homes. |
| Year/time frame for data collection: | Time frame is described as summer of 1999. |

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| Participant Characteristics (study inclusion/exclusion information): | p.6 The participants in this study were nurses working on a regular basis in nursing homes. 80 percent of participants were female, 12.5 percent were non-native German speakers. 48% were qualified nurses and 32% nurse aides, whereas, 75% of participants had primary source of income through nursing job. |
| Condition and measurement method: | p.4 Measurement of abuse and neglect was done using three methods for data collection: qualitative interviews to gather the in-depth view of the incidents, their origin, perception and interpretation and their relationship with institutional variables. Other two methods were questionnaire survey among nursing staffs and analysis of known cases of abuse to nursing home authorities. Questionnaires were not developed through one standard scale, but several scales of outcome measurement were modified and integrated by the author to make questionnaire suitable for the study. |
| Description of main results (n/N): | p.8 The top five among the fifteen stressors identified by the nursing care home staffs in working place were: staff shortage followed by time pressure, few experiences of success, inadequate technical equipment, lack of feedback and criticizing of respondent's work.<br>This is a mixed-method pilot study that attempts to identify the offender, observer and victim of elder mistreatment in nursing homes, study nursing staffs view on elder abuse and neglect. In this study, victims of abuse are both residents and nursing staffs. However, the focus of this study remains in studying and collecting evidences for elder abuse within this study.<br>79% of nursing staffs reported at least one incident of resident abuse in the past year. One out of three nursing staffs committed neglecting care on one or more occasions. 66% of the staffs had observed abuse conducted by colleagues during the past year, yelling to the residents was the most frequent form of abuse witnessed by respondents. |

| **Citation details** | |
|---|---|
| Author: | **(Castle, 2012)** |
| Title: | Resident-to-Resident Abuse in Nursing Homes as Reported by Nurse Aides |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2012 |

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|---|---|
| Issue: | 4 |
| Volume: | 24 |
| Pages: | 340-356 |
| **Generic Study Details** | |
| Study design: | Descriptive study |
| Country: | The United States of America |
| Setting/Context: | p.342 percent of nursing homes from 10 states- Arkansas, Colorado, Delaware, Florida, Kansas, Michigan, Nevada, New York, Oregon and South Carolina were randomly selected for the study from 50 states of the United States of America. Nursing homes with Medicare and/or Medicaid certification, excluding hospital-based nursing homes, since the service provide in these nursing homes were different from the usual nursing homes. |
| Year/time frame for data collection: | No any clear mention of time frame for data collection. The prevalence period was three months. |
| Participant Characteristics (study inclusion/exclusion information): | Participants for this study were 4451 nursing aides working full time and all shifts in 249 nursing homes from ten states of The United States of America randomly selected from the 50 states. Nursing care homes with lesser than 40 beds were excluded from the study due to lower staff number. Hospital based nursing homes were excluded as well. |
| Condition and measurement method: | Nurse aides were asked whether they have observed resident-to-resident abuse in the past three months. Abuse was classified into five groups (Physical, verbal, psychological, material exploitation and sexual).<br>Authors mention that, due to lack of valid instruments for measurement of abuse in nursing homes (content validity) with nursing staffs as respondents (face validity); they developed own instrument to measure resident-to-resident abuse in nursing homes. The questionnaires based on previous research and studies on elder abuse were pre-tested by interviewing nurses to identify the appropriateness of questions with the context. The most relevant questions after the pre-test were used for the actual study. This seems to be quite valid for the measurement of abuse in nursing home context, regarding the fact that there is no valid instrument in literature that measures abuse in nursing home settings. This item for outcome measurement can be recommended for use in further studies; also, to assess its validity. |
| Description of main results (n/N): | p.348 Verbal abuse was the most usual form of abuse identified by nurse aides where the prevalence of yelling was 97% (3706). Likewise, physical abuse observed by the nurse aides |

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| | (pushing, pinching and grabbing) was 94%(3589). Aggressive behavior between residents were observed by 91% of nurse aides in the past three months. 69% observed residents taking possessions of other residents i.e. material exploitation; and 77% observed residents exposing their private parts to other residents (sexual abuse). |

| **Citation details** | |
|---|---|
| Author: | **(Lachs et al., 2016)** |
| Title: | The Prevalence of Resident-to-Resident Elder Mistreatment in Nursing Homes |
| Journal: | Annals of Internal Medicine |
| Year: | 2016 |
| Issue: | 4 |
| Volume: | 165 |
| Pages: | 229-236 |
| **Generic Study Details** | |
| Study design: | This study is an observational prevalence study |
| Country: | The United States of America |
| Setting/Context: | 12 nursing homes in New York state were selected through random sampling, where 10 nursing homes agreed to participate. The study was conducted to identify the prevalence of resident-to-resident elder mistreatment (R-REM) in nursing homes. |
| Year/timeframe for data collection: | Researchers were in nursing homes for a period of 2-3 months where they screened patients for cognitive abilities, gathered data, conducted observation. The period of interview of residents and staffs was set to be a month where residents were interviewed within the 2 weeks of staff interviews. |
| Participant Characteristics (study inclusion/exclusion information): | The mean age of the 2011 participants was 84.14 and 72.5% of them were women and 16.3% were living on a dementia unit. All older adults regardless of their ability to who stayed in nursing homes during the study period were included for the study regardless of |

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| | their ability to provide consent or respond to questionnaires. Family members provided consent for those residents and methods like chart review, staff informant and observational methods were used for data collection. |
| Condition and measurement method: | p.230 R-REM was measured through six methods in this study: interviews of staffs, interview of residents, shift coupons, observation, chart review, and accident and incident reports. Authors justify that, due to short prevalent period and previous knowledge about R-REM that it can occur suddenly, they have applied those six methods. It is not mentioned what instrument, what questionnaire or observation tools, they have used for outcome measurement. |
| Description of main results (n/N): | 20.2% of residents experienced resident-to-resident abuse in 4 weeks prevalence period i.e. 407 residents out of 2011,<br>95% CI, 18.1% to 22.5%. Verbal R-REM was the most usual form of mistreatment, 16.0%. The least common form of mistreatment was sexual mistreatment, 1.3%. |

| **Citation details** | |
|---|---|
| Author: | **(Ben Natan et al., 2010)** |
| Title: | Psycho-social factors affecting elders' maltreatment in long-term facilities |
| Journal: | International Nursing Review |
| Year: | 2010 |
| Issue: | 1 |
| Volume: | 57 |
| Pages: | 113-120 |
| **Generic Study Details** | |
| Study design: | Correlational quantitative method |
| Country: | Israel |
| Setting/Context: | The context for this study is nursing homes in Israel. Authors have selected 24 nursing homes, each from different states of Israel. Elder mistreatment in long-term facilities are studies through questionnaires distributed to nursing staffs and facility directors in each |

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| | facility. No more than 10 questionnaires were distributed in each department of each facility with total sample of 600 questionnaires. Facility directors in all nursing homes (n=24) were provided with the questionnaires. |
| Year/timeframe for data collection: | During 2007, timeframe for data collection is not mentioned |
| Participant Characteristics (study inclusion/exclusion information): | 600 participants were nursing staffs working in long-term care facilities in nursing homes, while 24 participants were facility directors of those nursing homes. 46.5% of the respondents were nurses, most of the respondents were female, married and Jewish. 61.4% of the respondents had worked 5 years or less than 5 years in the present department. |
| Condition and measurement method: | p.115 questionnaires were developed in two scales namely 'Iowa Dependent Adult Abuse Nursing Home Questionnaire' and 'Knowledge and Management of Abuse' scale. Burnout questionnaires were developed using MBI-HSS (Maslach Burnout Inventory Human Services Survey) |
| Description of main results (n/N): | 1-year prevalence of self-reported mistreatment of one or more types of mistreatment by nursing staffs were 53.5%. The most common type of mistreatment was mental and physical neglect, 34.1% and 30.2% respectively. One-year prevalence of mental mistreatment was 23% and physical mistreatment was 12.25%.<br>Sexual violence and financial exploitation was very low with prevalence of 0.1%. |

| **Citation details** | |
|---|---|
| Author: | **(Harris & Benson, 1999)** |
| Title: | Theft in Nursing Homes: An Overlooked Form of Elder Abuse |
| Journal: | Journal of Elder Abuse & Neglect |
| Year: | 2000 |
| Issue: | 3 |
| Volume: | 11 |
| Pages: | 73-90 |

| **Generic Study Details** | |
|---|---|
| Study design: | Mixed method: quantitative and qualitative method |
| Country: | USA |
| Setting/Context: | Nursing homes in 10 states of USA. 52 nursing homes selected through multi-stage stratified cluster sampling method, where 47 agreed to participate. Theft as elder mistreatment was measured through distribution of questionnaires to care staffs and family members of older residents. |
| Year/timeframe for data collection: | 1997-1998 |
| Participant Characteristics (study inclusion/exclusion information): | 29.7% of care staffs were nursing aides, while 94.2% of total care staffs were females. Mean age of care staffs was 36.8 years and 48.9% had education up to high school level. |
| Condition and measurement method: | Self-reports are claimed by author to be a reliable method for detection of non-violent criminal behavior. Questionnaires were distributed to care givers on self-reported theft, observed theft and questionnaires to family members on theft. Authors were unsure regarding validity of self-reports for such a sensitive topic, were quite confident that questionnaires on observation of theft could yield valid results. |
| Description of main results (n/N): | 1.53% of total care staff respondents self-reported of stealing from older residents. 25.4% staffs had observed or suspected colleagues/other staffs of stealing belongings to residents.<br><br>47% of family members had noticed that residents were missing their belongings and 40% believed that they were stolen by staffs. |

| **Citation details** | |
|---|---|
| Author: | **(Malmedal et al., 2009)** |
| Title: | Inadequate care in Norwegian nursing homes- as reported by nursing staff |
| Journal: | Scandinavian Journal of Caring Sciences |
| Year: | 2009 |
| Issue: | 2 |
| Volume: | 23 |

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|---|---|
| Pages: | 231-242 |
| **Generic Study Details** | |
| Study design: | Questionnaire survey study |
| Country: | Norway |
| Setting/Context: | Nursing homes in Sør-Trondelag, a county in central Norway. 16 nursing homes selected through cluster sampling from 51 nursing homes. total number of nursing homes in the county were 55, two were excluded due to their participation in pilot study and two excluded due to inaccessibility. |
| Year/timeframe for data collection: | October and November 2005 |
| Participant Characteristics (study inclusion/exclusion information): | p.233 97% of participants were female nursing staffs, 25% had education from university/college, 57% were licensed nurses. Average working experience in current nursing homes was 8 years and only 20% of them were full-time working staffs. |
| Condition and measurement method: | Questionnaires were self-constructed after a pilot study. According to the authors, they constructed questionnaires themselves due to the lack of measurement instruments in literature and to ensure face validity of measurement tools. The questionnaires included acts of physical, emotional, financial and sexual inadequacy in care as well as neglect in care. Questionnaires measuring acts of severe physical abuse and sexual abuse were eliminated due to its inadequate face validity identified through pilot study. |
| Description of main results (n/N): | 1.53% of total care staff respondents self-reported of stealing from older residents. 25.4% staffs had observed or suspected colleagues/other staffs of stealing belongings to residents.<br><br>47% of family members had noticed that residents were missing their belongings and 40% believed that they were stolen by staffs. |

**Appendix III:** Critical evaluation of the studies included in review

Based on the guidelines provided by the JBI Critical Appraisal tools for use in systematic reviews (Munn, Moola, Lisy, Riitano & Tufanary, 2015).

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:
Author: (Goergen, 2004) Year: 2004
Record Number: ISSN: 1466-8203 DOI: 10.1108/14668203200400016

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | | | X | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | X | | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | | X | | |

| Overall appraisal: | Include: X | Exclude: | Seek further info: |
|---|---|---|---|

Comments (Including reason for exclusion):
This study has used mixed-method approach i.e. both qualitative and quantitative methods. However, only quantitative data from the study is included for the review. The author of this study had randomly selected 8 nursing homes for the qualitative interviews, but it is not mentioned how the author selected 21 nursing homes for quantitative survey. There is no mention of random selection of nursing homes for quantitative survey which is relevant to this review.
This study is, however, included for this review due to its quantitative part of the study that provides a valuable insight for this review.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:
Author: (Pillemer & Moore, 1989) Year: 1989
Record Number:

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | X | | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion):
31 nursing homes were the final sample out of 77 nursing homes in a state that were selected and agreed to participate for the study. However, non-participation was explained by comparing participating nursing homes to the non-participating that showed no significant difference in terms of size and ownership status (Pillemer & Moore, 1989). The final sample of respondents was 577 making 85% completion rate.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Allen et al., 2004) Year: 2004

Record Number: ISN: 0894-6566 DOI: 10.1300/J084v15n01_03

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | | | | X |
| 2. Were study participants sampled in an appropriate way? | | | | X |
| 3. Was the sample size adequate? | | | | X |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | X | | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | | | | X |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | | | | X |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

This study used complaints registered in Ombudsman's system in a state in the United State, as the material for the study. All complaints of abuse and care were selected and studied. Concerning validity, 90% of the complaints were stated to be valid through the investigation by Ombudsman.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer Date:

Author: (Saveman et al., 1999) Year: 1999

Record Number: DOI: 10.1300/J084v10n01_04

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | | X | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

Setting in this study is described as residential setting, and it has included four different care areas like nursing homes, older adults' own homes, sheltered housing and group-dwelling. This study is included for the review even though the setting is not focused on just nursing homes, because of sparse literature available and because this study provides an important insight on EM in nursing homes.

The authors have used random sampling for the selection of inhabitants in two cities in Sweden. However, it is not clear how the two cities were selected out of other cities in Sweden. It seems like the author used convenience sampling for selecting the cities.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Zhang et al., 2011) Year: 2011

Record Number: DOI: 10.1080/08946566.2011.534708

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | | X | | |
| 2. Were study participants sampled in an appropriate way? | | X | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion):

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Schiamberg et al., 2012) Year: 2012

Record Number: ISN: 0894-6566 DOI: 10.1080/08946566.2011.608056

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | | X | | |
| 2. Were study participants sampled in an appropriate way? | | X | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | | | X | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

In the starting point, there were 769 individuals who had relatives/family members 65 years and older receiving long term care, who were identified through random digit dial telephone survey. The final sample was 452 cases and those were relatives of older adults receiving long term care in nursing homes.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Castle, 2012) Year: 2012

Record Number: ISSN: 0894-6566 print/ 1540-4129 online

DOI: 10.1080/08946566.2012.661685

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

Sample size and response rate- Although the sample size was calculated to be 560 nursing homes i.e. 20% of nursing homes in 10 states, only 249 nursing homes seems to have agreed for the research making participation rate 45%. 6606 nurse aides were distributed the questionnaires and the response rate was 67% per facility i.e. total number of survey was 4451.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Goergen, 2001) Year: 2001

Record Number: ISSN: 0894-6566 (Print) 1540-4129 (Online)

DOI: 10.1300/J084v13n01_01

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | | X | | |
| 3. Was the sample size adequate? | | X | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | | X | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

The sample size was adequate for the quantitative study i.e. 392 but the low response rate of 20.4% (n=80), resulted in inadequacy in sample size for identifying the prevalence and incidence. p.6 The reasons for low response rate, as mentioned in the study were: lengthiness of the questionnaire, difficulty in understanding for nurses from foreign background and insufficient distribution of questionnaires among the staffs. Unknown number of staffs did not receive questionnaires from managers who were responsible for the distribution of questionnaires (Goergen, 2001).

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:
Author: (Lachs et al., 2016) Year: 2016
Record Number: doi:10.7326/M15-1209

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)
This is the only study in this review where the victims of abuse i.e. residents are the respondents. This is a useful study for this review since it represents the prevalence of elder abuse from residents' point of view. This is also one of the recent study that has involved various methods for data collection, that provides a broader view of the problem.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:

Author: (Ben Natan et al., 2010) Year: 2010

Record Number: ISSN: 0020-8132 E-ISSN: 1466-7657

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | X | | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)

Sampling seems to be unbiased in this study as it has included nursing homes from all geographical regions of the country. Response rate was relatively high i.e. 85% for nursing staffs and 91.6% for facility directors.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:
Author: (Harris & Benson, 1999) Year: 1999
Record Number: ISSN: 0894-6566

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)
This is a multi-method study and it has used both qualitative and quantitative approach. Sampling is unbiased since it has used stratified cluster random sampling method.
Participation rate is 47%.

**JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data**

Reviewer: Date:
Author: (Malmedal et al., 2009) Year: 2009
Record Number: ISSN: 0283-9318

| | Yes | No | Unclear | Not applicable |
|---|---|---|---|---|
| 1. Was the sample frame appropriate to address the target population? | X | | | |
| 2. Were study participants sampled in an appropriate way? | X | | | |
| 3. Was the sample size adequate? | X | | | |
| 4. Were the study subjects and the setting described in detail? | X | | | |
| 5. Was the data analysis conducted with sufficient coverage of the identified sample? | X | | | |
| 6. Were valid measures used for the identification of the condition? | | X | | |
| 7. Was the condition measured in a standard, reliable way for all participants? | X | | | |
| 8. Was there appropriate statistical analysis? | X | | | |
| 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? | X | | | |

Overall appraisal: Include: X Exclude: Seek further info:

Comments (Including reason for exclusion)
In this study, it is quite unclear on what basis the questionnaires were constructed. However, the authors have tested their questionnaires for validity through a pilot study.

**Appendix IV:** Author Guidelines

# Oxford Academic

## *The Gerontologist*

5/18/2018 Instructions to Authors

Retrieved from: https://academic.oup.com/gerontologist/pages/Instructions_To_Authors 1/20

**Instructions to Authors**

**On this page:**

1. **Introduction**

The Gerontological Society of America (GSA), the publisher of The Gerontologist, was founded in 1945 to promote the scientific study of aging, to encourage exchanges among researchers and practitioners from the various disciplines related to gerontology, and to foster the use of gerontological research in forming public policy. The organization fosters collaboration between physicians, nurses, biologists, behavioral and social scientists, psychologists, social workers, economists, policy experts, those who study the humanities and arts, and many other scholars and researchers in aging. Through networking and mentorship opportunities, GSA provides a professional "home" for 5,500 career gerontologists and students at all levels. For more information about GSA, visit geron.org.

2. **Aims and scope of the journal**

The Gerontologist®, published since 1961, is a bimonthly journal of The Gerontological Society of America that provides a multidisciplinary perspective on human aging by publishing research and analysis on applied social issues. It informs the broad community of disciplines and professions involved in understanding the aging process and providing care to older people. Articles should include a conceptual framework and testable hypotheses. Implications for policy or practice should be highlighted. The Gerontologist publishes quantitative and qualitative research and encourages manuscript submissions of various types including: research articles, intervention research, review articles, measurement articles, forums, and brief reports. Book and media reviews, International Spotlights, and award-winning lectures are commissioned by the editors.

Please refer below to the Types of Manuscripts Considered for additional information about all types of manuscripts.

Due to the high volume of submissions, we are unable to offer pre-screening advice. Instead, please refer to the aims and scope of the journal to determine if The Gerontologist is a suitable journal for your work.

3. **Types of manuscripts considered**

All manuscripts submitted to The Gerontologist should address practice and/or policy implications.

*The word limits listed below include abstract, text, and references.

Tables and figures are limited to 5 Word pages for all submission types except for Review Articles, for which 10 pages are allowed. To manage the word and page counts, authors are encouraged to submit detailed methodology, tables, and/or figures as appendixes. If your manuscript is accepted, appendixes are available to readers online only.

a. Intervention Research. An Intervention Research submission describes research that spans the trajectory from intervention development to implementation. Appropriate articles include rigorous early stage development, feasibility, or pilot studies of innovative practices, RCTs, studies of the transportability of efficacious interventions, community testing or trials, and tests of dissemination and implementation strategies. Submissions may be research article length (maximum of 6000 words for quantitative, 7000 words for qualitative or mixed methods), or brief reports (maximum of 2500 words; may be most appropriate for pilot studies). Successful submissions will have the following attributes: (a) a clear theoretical or conceptual framework supporting the intervention and/or the treatment development and implementation process, (b) for implementation research, a description of evidence from rigorous research that the intervention has efficacy, (c) methodological rigor, including clear articulation of the design and analyses, and (d) integration of implementation considerations regardless of research stage. For more information, please refer to the following editorial: Meeks, S. & Pruchno R. (2017). Practice Concepts Will Become Intervention Research Eective January 2017. The Gerontologist. 57(2), 151-152. doi: 10.1093/geront/gnw213

b. Research Articles. Research Articles present the results of original research. These manuscripts may be no longer than 6,000* (7,000* for qualitative studies) words. The word count includes; abstract, text and references. Tables and figures are limited to 5 Word pages. The text is usually divided into sections with the headings: Introduction, Design and Methods, Results, and Discussion and Implications. Subheadings may also be needed to clarify content. Research design and analysis procedures as well as implications for practice or policy must be clearly described.

c. Review Articles. The Gerontologist welcomes submissions of state-of-the-art Review Articles (e.g. systematic/scoping reviews, umbrella reviews) and/or in-depth

synthesis methodology reviews (e.g. meta-analyses). Manuscripts should be limited to 8,000* words. Authors are encouraged to use and include the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist when submitting the manuscript. Please make sure to upload the appropriate checklist and ow diagram with your review (PRISMA checklist and ow diagram is available here). Note: It is permissible to add a column or space to the checklist that species where in the manuscript each component has been followed. Review Articles will be published online only (title would appear in a print issue Table of Contents for the journal, but the article would appear online only). Articles will go through our usual peer review and editing processes. They will receive a DOI, be searchable, and will be available electronically.

d. Measurement Articles. Measurement articles describe the reporting of sophisticated scale/instrument development procedures (6,000* words; all scales must be freely available for use by researchers). Measurement articles will be published online only (title would appear in a print issue Table of Contents for the journal, but the article would appear online only). Articles will go through our usual peer review and editing processes. They will receive a DOI, be searchable, and will be available electronically.

e. Brief Reports. Brief reports are encouraged for significant and innovative papers that are not as long as full research articles but are equivalent in quality. Manuscripts should be no more than 2,500* words. The word count includes the abstract, text and references.

f. Forum. Timely scholarly review articles or well-documented arguments presenting a viewpoint on a topical issue are published in this section. Total length should be no more than 5,000* words. The word count includes the abstract, text and references.

g. On Film and Digital Media. Please refer to the editorial "Launching 'On Film and Digital Media."

h. Book Reviews. Book reviews are published in an essay form. Reviews are prepared at the request of the Book Review Editor and are not guaranteed for acceptance prior to submission. Unsolicited book review essays are not accepted. Books for review should be sent to Jamila Bookwala, PhD, Book Review Editor, Office of the Provost, 219 Markle Hall, Lafayette College, Easton, PA 18042.

i. Guest Editorials. Upon occasion, the Editor-in-Chief will invite guest editorials. Unsolicited editorials are not accepted.

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Supplement issues of The Gerontologist are additional and externally funded issues. Please contact the editorial office at tg@geron.org for further information. The

Gerontologist also publishes special issues, developed by the editors of The Gerontologist within our regularly scheduled bimonthly issues.

4. **Formatting**

Manuscripts are to be submitted in Microsoft Word or a Word-compatible program at ScholarOne. Manuscripts submitted in other formats will be unsubmitted and returned to the corresponding author for correction prior to editor review. Please DO NOT submit PDF versions of your manuscript submission materials. A peer-review title page will be created by the system and will be combined with the main document le into a single PDF document. This document will be used for the peer review process. Each table should be editable and in Microsoft Word or a Word-compatible program on a separate page at the end of the main document.

The Gerontologist uses APA style. General guidelines follow; for more detailed information, consult the Publication Manual of the American Psychological Association (6th ed.). Please see section TYPES OF MANUSCRIPTS CONSIDERED BY THE GERONTOLOGIST above for additional information about the types of submissions and word counts. Please read "Editorial: Science or Fishing?" for valuable information about manuscript preparation.

This journal has a double-blind review policy. Therefore, we require authors to submit TWO versions of the article le, anonymous and non-anonymous (see below for additional information). Please upload ONLY these two les, the anonymous and non-anonymous manuscript les. Include your tables and/or figures and appendices, if applicable, in these documents, following APA guidelines.

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Title page. A title page should be a completely separate page that includes the following: (1) Title of the manuscript, APA recommends that a title be no more than 12 words. (2) All authors' full name(s), affiliations, and email addresses. (3) The corresponding author should be clearly designated.

Abstract and Keywords. On a separate page, each manuscript must include a brief abstract. Structured abstracts for Research Articles, Brief Reports, and Intervention Research, Review Articles, and Measurement Articles submissions should be approximately 250 words (the web-based system will not accept an abstract of more than 250 words) and must include the following headings: Background and Objectives, Research Design and Methods, Results, and Discussion and Implications. Forum manuscripts must also include an abstract of about 200 words but may be without structured headings.

Below the abstract, authors should supply three to five keywords that are NOT in the title. Please avoid elders, older adults, or other words that would apply to all manuscripts submitted to The Gerontologist. Note: Three keywords must be entered to move forward in the online submission process.

Text. The text of Research Articles, Brief Reports, and Intervention Research, Review Articles, and Measurement Articles submissions should follow the headings included in the structured abstract (see above Abstract and Keywords). Forum manuscripts should also be divided into headings, as appropriate for the submission. Articles may need subheadings within some sections to clarify their content. The Implications should not merely restate the results but should interpret the results and specify the policy and/or practice implications. (1) The word counts for the different types of publications considered by the Journal are presented above and are inclusive of the abstract, text, and references. (2) If manuscripts greatly exceed these word count limits, your manuscript may be returned to you for correction BEFORE the peer review process can begin. If you would like to appeal the word count limit for the text of the manuscript, permission must be granted by the Editor in Chief prior to submission. When submitting, please indicate in your cover letter that permission has been granted.

Acknowledgment (Optional). If the authors choose to include acknowledgments recognizing funders or other individuals, they should be placed on a separate page immediately following the title page. The self-identifying acknowledgments should be removed from the anonymous version of the manuscript.

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6. **Supplementary material**

Supplementary material can be made available by the publisher online only and linked to the published article. This material includes supporting material that is not essential for inclusion in the full text to understand the conclusions of the paper but contains data that is additional or complementary and directly relevant to the article content and therefore may benefit the reader. Such information might include more detailed methods, extended data sets/data analysis, or additional figures.

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