

# **Challenges for Nurses to prevent pressure ulcers among institutionalized elderly patients**

A Qualitative Literature Review

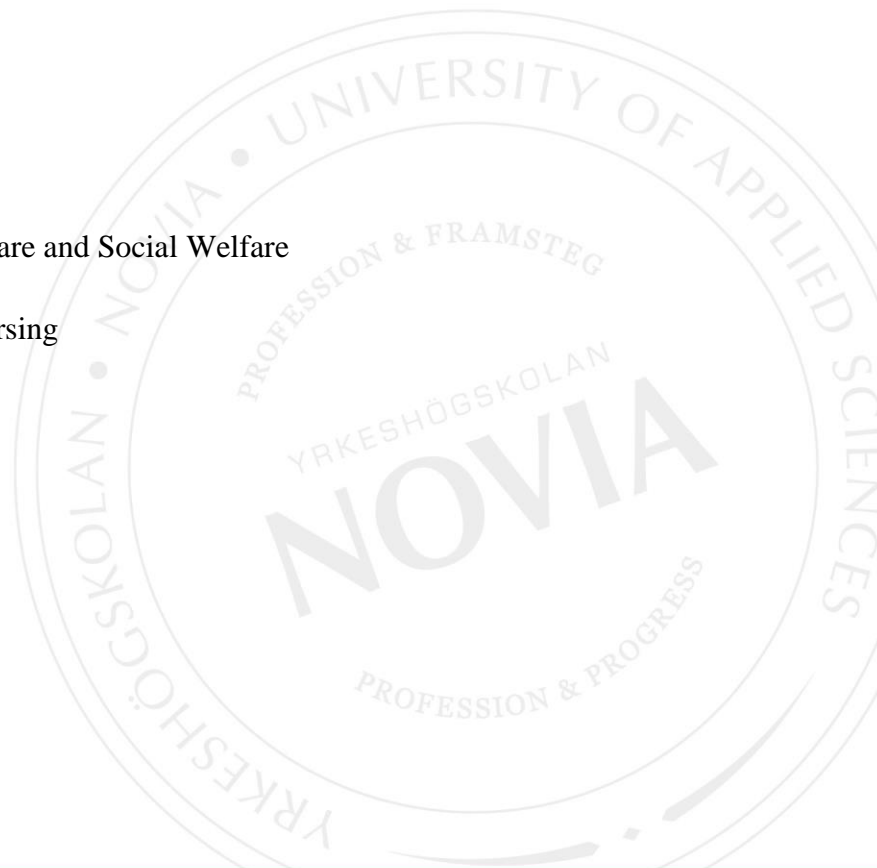
Archana Karki

Li-Hsuan Liang

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## **BACHELOR'S THESIS**

Author: Archana Karki, Li-Hsuan Liang

Degree Programme: Nurse, Vaasa

Supervisor: Lena Sandén-Eriksson

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### **Abstract**

Pressure ulcers are ischemic lesions of skin and underlying tissue because of continuous pressure, which is related to sickness and poor mobility. It is a serious and challenging problem in health care system. This study aims to explore challenges confronted by nurses while trying to prevent pressure ulcer and to find out good nursing care to maintain quality of life among elderly patients

Since the study is related to human caring process, Jean Watson's caring theory's 8th carative factor, "The provision of supportive, protective and (or) corrective mental, physical, sociocultural and spiritual environment" was chosen for the study, which helps nurses to focus on prevention of pressure ulcers. Qualitative literature review was used as method of study and data analysis was done by deductive approach.

The twelve peer-reviewed articles reveal about the challenge of pressure ulcers prevention and good nursing care. These challenges could be classified into "context of workplaces", "knowledge and skills" and "documentation and communication". "Organization" and "implementation" are two critical factors for providing good nursing care. This study attempts to mention the difficulties when nurses carry out pressure ulcer prevention issue and draw the way of good nursing care could help to reduce risks of pressure ulcers in elderly.

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Language: English   Key words: pressure ulcers, nurse, elderly, challenge, good care

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## 1 Introduction

Pressure ulcers (PU) have been one of the serious problems in health care systems that persist over the years (Alves & Gabriela, 2016). Although it is considered as an avoidable problem, still it remains one of the major problems of hospitals and long-term care facilities. (Waugh, 2014). On the other hand, PU is also great economic burden for any health care system as well as families (Moore, 2004). Despite of different modern technologies and preventive equipment for PU, this problem has not been reduced yet. Since, it is known that increasing age heightens the risk of PU (Moore, 2004), the older adults are considered as most vulnerable age groups than adults because elderly people are more likely to suffer from co-morbid illnesses and impaired mobility. (Waugh, 2014).

Nowadays, various international standard pressure ulcers prevention guidelines are available (Waugh, 2014). However, for successful implementation of such guidelines requires an involvement of health care professionals, who are engaged in providing direct care to patients (Moore, 2004). Similarly, the nurses are one who is always engaged to provide direct care to the patients or elderly people at nursing homes. In this context, it is expected that those nurses dealing directly with patients, who are at risk of PU, have proper knowledge about PU, its development, prevention, treatment, and management. Furthermore, American Nurses Association (ANA) also considers PU as quality indicator of nursing care. Thus, it becomes important to assess and evaluate possible gaps in knowledge and challenges faced by nurses for preventing pressure ulcers. (Alves & Gabriela, 2016). Therefore, the purposes of this study are to explore challenges confronted by nurses while trying to prevent pressure ulcers among institutionalized elderly patients as well as to find out good nursing care to maintain the quality of care.

When authors did their practice placement in the elderly home, they encountered with an 80-year old woman who was suffering from pressure ulcer on her left foot that was severely infected. Following several encounters with pressure ulcer during wound dressing rounds, authors' interest has stemmed gradually for a study in this topic, which led authors to write about PU prevention challenges and good care related to it.

## **2 Background**

The background information has been gathered from previous research and studies for providing basic concepts of pressure ulcer's definition, causes, incidence, classification, and prevention. Additionally, this chapter gives overview of quality nursing care as well as institutionalized elderly care. Hence, reader will be able to gain more knowledge in this area. These concepts will be discussed below.

### **2.1 Definition**

Pressure ulcers are defined as ischemic lesions of skin and underlying tissues because of a continuous pressure, which decrease or blocks flow of blood or lymph. Ischemia causes death of tissues and gradually leads to ulceration of that area, which is also known as bedsores or decubitus ulcers. Pressure ulcers are more prone to develop at bony prominences areas such as heels, sacrum, ischia and greater trochanter but might develop at any skin surface areas that are exposed to friction or shearing forces. (LeMone, Burke & Bauldoff, 2015).

### **2.2 Causes**

The primary causes of pressure ulcers are unrelieved pressure, shearing, friction, or a combination of these forces (Beeckman, 2007). Similarly, factor-affecting tolerance of soft tissues under pressure and shear are nutrition, microclimate, perfusion, co-morbidities and condition of soft tissues (Edsberg, 2016). Severity of pressure ulcers differs from erythema of intact skin to destruction of tissues involving skin, sub-cutaneous fat, muscles, and bone. (Beeckman, 2007).

### **2.3 Incidence and prevalence**

The incidence of pressure ulcers in hospitals are 8% and long-term care facilities ranges from 2.4% to 23%. Around 60,000 patients die each year due to pressure ulcers complications. Costs of treating this wound is 11 billion dollar per year. It has increased length of stay and costs for healthcare field settings as well as for individuals. (LeMone, Burke & Bauldoff,

2011). Moore (2011) & Scott (2006) studies has reported that prevalence rate in long-term care facilities ranges from 8.8% to 53.2% and incidence rates vary from 7% to 71.6% (Moore & Cowman, 2014)

## **2.4 Risk factors of pressure ulcers**

Pressure ulcers is related with ill health and poor immobility and have pernicious effects on quality of life (Coleman, 2014). Pressure ulcers may occur at any age groups but older people, above 65years age, are at high risks of developing pressure ulcers. Important features of older people's health include activities of daily living, cognitive function, disease-induced impairment, and comorbidities. Disturbances in activities of daily living, poor health, cognitive impairment, confusion and mental status are predictable risk factors of pressure ulcers in long term care facilities. (Kwong, 2009). Other risk factors for developing pressure ulcers are immobility, existing and previous pressure ulcers, general skin status, perfusion, skin moisture, dual incontinence, diabetes, sensory perception, nutrition, and albumin (Coleman, 2014).

## **2.5 Classification of pressure ulcers**

The first classification system for pressure ulcers was developed by Shea in 1975, and after that several systems have been developed for describing different stages of pressure ulcers with varying numbers for grade ranging from 0 -5 grade to 1-7 grade classification. The National Pressure Ulcers Advisory Panel (NPUAP) of the United States of America has developed classification in 1989 using four grades. In 1989, European Pressure Ulcer Advisory Panel (EPUAP) embraced this classification with some minor text changes. The main goal of classification system is to maintain standard of record keeping and give description of ulcer for the purpose of clinical practice, research, and audit. (Beeckman, 2007).

In National Pressure Ulcers Advisory Panel (NPUAP) Pressure Injury Staging System, the term "Pressure injury" replaces "Pressure ulcer" because new terminology better describes pressure injuries to both intact and ulcerated skin. According to previous staging system, stage I and deep tissue injury described injured intact skin, while other stages described open ulcers, which created a confusion because definitions of every stage referred to the injuries

as pressure ulcers". Additionally, Arabic numbers replaces Roman numerals in the name of stages. (Edsberg, 2016). Following are the stages of pressure injury according to NPUAP:

### **2.5.1 Stage 1 Pressure injury**

In this stage, the skin is not damaged, and area is appeared red but doesn't blanch when applied light pressure. Before changes in skin, there may be presence of blanchable erythema, changes in sensation, warmth or pain. However, in darkly pigmented skin it might appear differently or may not have visible changes. (Edsberg, 2016).

### **2.5.2 Stage 2 Pressure Injury:**

In this stage, dermis layer of skin is exposed due to loss of partial thickness of skin. The wound surface is characterized by pink or red, moist and presented as intact or ruptured serum-filled blister. Deeper tissue, fats are not visible as well as layer of dead tissues are not present. Injuries are common result of effect of microclimate and shear in skin over pelvis and heel. (Edsberg, 2016).

### **2.5.3 Stage 3 Pressure Injury**

This stage is characterized by full-thickness loss of tissues in which fats are exposed but bone, tendon, fascia, muscle or cartilages are not. Undermining and tunnelling maybe present. The depth of tissue damages differs by anatomical location; deep wounds may develop in the area with significant adiposity. If slough or eschar conceals the depth of tissue loss, this is known as unstageable pressure injuries. (Edsberg, 2016).

### **2.5.4 Stage 4 Pressure Injury**

In this stage of injury, there is fully loss of skin and tissue where fascia, muscles, tendon, ligament bone or cartilage are exposed. Undermining and tunnelling occurs quite frequently. Slough or eschar are visible. Similarly, in this stage also depth of injuries differs by anatomical location. (Edsberg, 2016).

### **2.5.5 Unstageable Pressure Injury**

This stage is characterized by full-thickness skin loss where depth of tissue damages couldn't be distinguished because of slough or eschar concealing the wound. However, if the slough or eschar is removed then stage 3 or stage 4 pressure injuries will be seen. Stable slough or eschar present in the heel or limb pressure injuries should not be removed or softened. (Edsberg, 2016).

### **2.5.6 Deep Tissue Pressure Injury**

In this stage, the skin maybe damage or not where particular area doesn't blanch and presented as deep-red, maroon, purple discoloration or epidermis with blood-filled blister. Pain and temperature changes are present before skin changes. It might appear differently in dark pigmented skin. This deep tissue injuries are the consequences of intense and prolonged pressure over bony prominences areas. The wound may develop rapidly showing extent of tissue damages or may settle without tissue loss. If subcutaneous tissue, necrotic tissue, fascia or underlying structure are visible, then it is known as full-thickness pressure injuries. The term deep tissue injury is not used to describe vascular, traumatic, neuropathic or other dermatologic conditions. (Edsberg, 2016).

## **2.6 Prevention of pressure ulcers**

Pressure ulcer (PU) is one of the serious and important health issues. It doesn't only cause pain, morbid conditions, and infection but also increases uses of health resources, health costs, length of stay at hospital and nursing time. (Kwong, 2011). Similarly, PU influences on the quality of life of patients because patients with pressure ulcers frequently experience pain, anxiety related to wound healing, and fear of isolation (Moore & Cowman, 2014). So, the presence of pressure ulcers is considered as an important indicator for quality of care (Serras, 2018). However, 90% of pressure ulcers can be prevented with precise prediction and suitable nursing interventions to decrease or eliminate factors related with pressure ulcers development (Kwong, 2009). Prevention should always include identification of risk patients and introduction of suitable preventive intervention for patients. Mostly, the intervention should focus at more preventive measures rather than treatment. (Serraes, 2018).

The main goal of pressure ulcer prevention strategies is to reduce either extent or duration of pressure between patient and his/her support surfaces. This goal can be achieved by regular manual repositioning (i.e. two hourly) or by applying pressure- relieving support surfaces such as cushions, mattress overlays, and replacement mattresses. (McInnes et al., 2015). The national and international guideline also suggests using repositioning method for those patients who are at risk of developing pressure ulcers (Serraes, 2018).

According to NPUAP/EPUAP/ Pan Pacific Pressure Injury Alliance (PPPIA) 2014, Quick reference guide, other methods for prevention of pressure ulcers includes preventive skin care, risk factors and risk assessment, skin and tissue assessment; emerging therapies like microclimate control, prophylactic dressings, use of fabric and textiles instead of cotton; and electrical stimulation of muscles for prevention of pressure ulcers.

## **2.7 Quality of nursing care**

Nurse is in an important role to ensure patients safety with quality of care. In any situation, nurses have the ability to organize and work on various tasks and problems by providing quality of care directly. Nurses are also considered as a key role when they have to communicate with other health care settings. They work together in order to avoid errors and improve health care process. Quality is related to standards and values that people in certain group can agree with it. The Institute of Medicine (IOM) defined quality of care for 21st century focuses on concepts such as quality care is secure, adequately, timely, patient-centered and reasonable instead of measuring guideline. The definition of patient safety was done by IOM as “the prevention of harm to patients.” and AHRQ Patient Safety Network Web site also give the definition of preventing harm as “freedom from accidental or preventable injuries produced by medical care.” (Mitchell, 2018)

To perform high quality of nursing care is needed for the knowledge of life science as well as specialised knowledge in health care. It also included understanding, practical and effective principles in social sciences. Quality care can go through by learning with formal education and practice experiences. It is not enough to just have the knowledge, but also nurses require to understand and explain the knowledge based on individual patient. Nurses are willing to communicate with patients in order to make sure they can receive the

information, discuss the health problem and care plan. Also, communication built nurse and patient's relationship that is connected to good nursing practice. If the quality of care increased, it showed nurses take consideration on patients' needs, concerns and expectations. Quality of nursing care also involved amount of time that nurses can deliver their care to the patients. If there is a limited time between nurse-patient interaction, the quality care could decline. Because of putting more stress on nursing practice, low quality care and negative effects could happen. (Gunther, 2002)

## **2.8 Institutionalized elderly care**

Nursing home care and long-term care have the same meaning in the past. If the elderly needs long-term care, they would be put in a nursing home. Nowadays, long-term care has been considerably changed and it is more likely to provide the care according to people's needs. It included home care, residential care, adult day care and assisted living. However, nursing home is still part of long-term care system. (Castle & Ferguson, 2010) National Health Service in the United Kingdom mentioned nursing home included one or more qualified nurses provide nursing care at daily work (National Health Service, 2019). In Finland, municipalities are in charge of health services for old people. If elderly is not able to manage to live at home, the municipality will help to arrange institutional care for them and provide the accommodation. (Ministry of Social Affairs and Health, 2019) The goal of long-term 24 hours care for elderly person is to contribute their life fully. The institutional accommodation has a bed, mattress, and the lights. The elderly may furnish the apartment as desired. To reach the goal, the care should promote safety and dignified living. (City of Helsinki, 2019)

Hospitals are responsible for specialized medical care. Elderly in hospital stay can develop pressure ulcers quickly after they are admitted. It is important to have hospital care in time and prevent the incidence to happen. Pressure ulcer assessment and preventive process are needed to be taken an action early and possible to have the examination while patients in emergency department. (Baumgarten, 2006)

### **3 Theoretical Framework**

Since this study is related to human caring process, the framework of Jean Watson's Philosophy and Theory of Transpersonal Caring theory was chosen for this study. The core and structure for the theory of human caring contain ten different carative factors and ten caritas processes. Nurses can use carative factors in delivery health care and the aim is focusing on caring process that enable to maintain the person's health. Nursing field is relevant to health promotion, illness prevention, sickness caring and rehabilitation. Nowadays, nursing is concerned with caring knowledge and understanding how to care. The factors can also be viewed as a foundation within the science of caring for nursing. (Watson & Leininger, 1985)

There are several factors having influence on human well-being and are needed to be thought in nursing daily care. The routine and activities that nurses have done could promote health and prevent illness. Those functions could be observed more deeply in the 8<sup>th</sup> carative factor i.e. "The provision of supportive, protective and (or) corrective mental, physical, sociocultural and spiritual environment." This factor focuses on how nurses perform the caring when they face the challenge for pressure ulcer prevention in elderly home and improve the level of quality care. Activities in physical and social environments are external to a person. Providing support and protection in mental and spiritual environments are internal to a person. (Watson & Leininger, 1985)

Comfort is one of variables that nurses can handle, and comfort activities help the person to function effectively. Because of the stress of hospitalization, the effect of patient's hospital environment is important to physical and mental health. Nurses must provide supportive, protective and corrective environment when the patient comes to the hospital and promote mental comfort. For example, in physical side, make the bed to be comfortable, pay attention to patient's position and change body position frequently; in mental comfort, help the patient to understand the expectation of care. (Watson & Leininger, 1985)

Safety is an issue that could be part of professional nursing and caritas process. It could affect nurses' activities that associated with support, protection, and correcting the environment for healing in different levels. To recognize the threats and danger in the environment is important to every person's well-being. Nurses have obligation to make sure safety. Nurses concern for safety at multiple sides, including knowledge, appreciation, and

tolerance of behaviours. Safety considerations in the environment rely on nurses' assessment and intervention. The carative factor admits nurse's critical role for providing a safe, assistive, protective and healing environment for patients at all levels. (Watson, 2008)

## **4 Aim and problem definition**

Even though the nurses follow all kind of available guidelines or measures of pressure ulcer prevention, pressure ulcers are still existing problems in hospitals as well as in elderly homes. The aim of this study is to explore challenges confronted by nurses while trying to prevent pressure ulcer. Furthermore, it also aims to find out good nursing care for pressure ulcers prevention in order to maintain quality of life among elderly patients.

This study will focus on the following two study questions:

1. What kind of challenges do nurses face to prevent pressure ulcers?
2. What kind of good nursing care could be provided to prevent pressure ulcers among institutionalized elderly patients?

## **5 Research Methodology**

A qualitative approach and qualitative systemic literature review have been used for this thesis. For the analysis part, deductive content analysis method has been employed.

### **5.1 Qualitative research**

Holloway & Galvin (2017) state that qualitative research is way of conducting social inquiry that focuses on the way people make sense of experience and the world in which they live. The main foundations of qualitative research remain in the explanation of social reality and lived experiences of human beings. According to Polit & Beck (2017), qualitative research is an emergent design that takes shape as researchers make ongoing decisions based on what they have learned. Qualitative design is flexible method and adjustable to new information during process of data collection.

## 5.2 Systematic Literature review

A formal literature review is critical review of previous researches that depends on articles published in well-established research journals and should be relevant, comprehensive, and argumentative to the selected area of study. (O'Leary, 2010). Quality and content of writing materials may vary, so when conducting a literature review decision must be made what to read and include in written review. Mainly information reviewed from prior studies must depend on primary source research reports, which are done by researchers who conduct them. Furthermore, selection of recent review from a primary source gives an overview of the topic and a valuable bibliography. (Polit & Beck, 2017).

Working with a literature review means conducting a whole study, as reviewers begins with questions, plan and implement plan for gathering information; then analyse and interpret information. The findings are then summarized in written reports. Simultaneously, working with high-quality literature review means is an art and science. Also, Garrad 2014 (as mentioned in Polit & Beck, 2017) suggests that to "own" a literature, one must be determined for becoming an expert on topic, which means reviewers must be hard-working to pursue for possible sources of evidences. Characteristics of high-quality review are firstly, it should be comprehensive, thorough, and up to date; secondly it should be systematic, which means decisions rules and criteria for including and excluding should be clear. Finally, it should be consistent so that another reviewer can implement same rules and criteria and produce similar conclusions about the evidence. (Polit & Beck, 2017).

A systematic review is review that combine research evidence about a specific research questions in systematic manners using careful sampling and data collection procedures that are already mentioned explicitly in a protocol. Systematic review is considered as an important feature of Evidence Based Practice (EBP) because EBP combine different research evidence in a precise manner. Such combination of different research evidence can take various forms and produce different results. Additionally, researchers are developing different technique for combining findings across studies such as meta-study, meta-method, meta-summary, meta-ethnography, qualitative meta-analysis, and so on. Trending technique between nursing researchers is meta-synthesis. And recent development also includes systematic reviews, which combines findings from qualitative as well as quantitative studies and from mixed methods studies. (Polit & Beck, 2017).

Since, qualitative method is flexible way and conducting systematic literature review means doing critical reviews of prior studies for getting the answers of the questions from experts, experienced individuals, schools and so on. Hence, for getting broader context and building new knowledge on this topic, qualitative systematic literature review has been chosen.

### **5.3 Data collection**

According to Polit & Beck (2017, p 90), beginning step for a literature review is to create a search strategy to locate a relevant data. As a part of our search strategy for collecting data, the "FINNA" search engine is used from Tritonia library website (Tritonia.fi), which have free access to e-journals, articles and electronic databases of Novia University of applied sciences. Databases such as Wiley Online Library, EBSCO, CINAHL, and PubMed have been used for searching relevant articles related to research questions.

#### **5.3.1 Selection criteria**

When searching for data, search strategy must have some decision about setting boundaries for selection criteria. This decision should be crystal clear, so that no bias will be created and will ensure reproducibility. (Polit & Beck, 2017, p 90). Criteria that will be used for selecting relevant articles for research questions are inclusion and exclusion criteria as mentioned below:

#### **5.3.2 Inclusion Criteria**

Since, Systematic qualitative literature review will be used for thesis, mainly peer-reviewed qualitative research studies will be selected for reviewing and answering research questions. One feature among electronic search across different databases is "Boolean operators" such as AND, OR, and NOT that help to expand or delimit a search. (Polit & Beck, 2017, p 91). Mainly, "AND" and "OR" Boolean operator has been included to combine keywords such as, "pressure ulcers", "Prevention", "Nursing Home", "Elderly care", "Nurses", "Challenges", and "Quality of care" together for searching appropriate studies. Furthermore, studies written in English and published from the year 2010 – 2018 were included. Materials type "e-articles" and "Full text available" were selected. Before selecting a relevant article, a

title and an abstract were reviewed meticulously. Finally, all significant studies will be applied for this thesis.

### **5.3.3 Exclusion criteria**

Studies using language other than English, quantitative studies, inaccessible full text, time frame before 2010 AD, and non-peer reviewed articles were excluded from search criteria.

## **5.4 Deductive Content Analysis**

According to Polit and Beck (2017), "Qualitative content analysis is the analysis of the content of narrative data to identify prominent themes and patterns among the themes". The main purpose of analysing data is to organize it, give a structure and draw out purposeful meaning from data. Similarly, content analysis reduces the large volume of words in text into fewer content-related categories. Hence, classifying into similar categories, words or phrase, likely shares the same meaning. Content analysis is the method that may be used in inductive or deductive way. (Polit & Beck, 2017; Elo & Kygnäs, 2008).

Deductive content analysis is used when the analysis of data is based on previous experiences or the aim of study is theory testing. This method is used frequently when researchers try to retest existing data in new context. In deductive content analysis, the first step is to develop categorization matrix, and data coding is done according to the categories. The concept explored in categorization matrix can arise from prior experiences, research questions, and previous work such as theories, models, mind maps and literature reviews. When the categorization matrix is developed, the data are reviewed for content and coded according to similarities of the identified categories. (Elo & Kygnäs, 2008; O'Leary, 2010).

In this study, twelve peer-reviewed articles have been used for the process of data analysis. The data were analysed using deductive content analysis method. Initially, the categorization matrix as shown in "Table 1" was created based on research questions as well as literature reviews. Thereafter, collected data were read thoroughly and repeatedly until got familiarized. While reading, the data were coded according to identified categories in matrix. Finally, all the important findings of study were concluded.

## 6 Finding

A 12 peer reviewed articles were gathered by following inclusion and exclusion criteria for achieving the aim of this thesis. We have summarized and categorized the contents of all collected articles and arranged them in the order such as Name of study, Authors, aim of research, Research method and Results as shown in Appendix 2. Qualitative content analysis in deductive way is employed to analyse the collected data. Based on research questions, literature reviews and theoretical framework, two main themes have been emerged:

1. *Challenges to preventing pressure ulcers*
2. *Good nursing care.*

Each of this theme is further divided into categories and subcategories as presented in below Table 1:

Table 1: Overview of Themes, Categories and Sub-Categories

<b>Main theme</b>	<b>Categories</b>	<b>Sub-categories</b>
Challenges to preventing pressure ulcers	Context of workplaces	Understaffing and Transient workforces.
		Increase workload
		Patient characteristics
		Caring cultures
	Knowledge and skills	
	Documentation and communication	
Good nursing care	Organization in health care systems	Guidelines
		Equipment
	Implementation in pressure ulcers prevention	Multi-professional tasks
		Teamwork
		Education
		Communication

## **6.1 Challenges to preventing pressure ulcers**

Nurses have been facing different kinds of challenges on their daily working life for preventing pressure ulcers among elderly people. Based on first research question, "What kind of challenges do nurse faces to prevent pressure ulcers?" this main theme exists and under this main theme, mainly three categories have been found to describe challenges. The three categories are as follows:

### **6.1.1 Context of workplaces**

Various circumstances within nurses working areas creates a challenge, such challenges intercepts nurses somehow to prevent pressure ulcers among their patients. After thoroughly reading the collected articles, circumstances creating challenges in workplaces have been subcategorized as mentioned below:

#### **a) Understaffing and Transient workforce**

Understaffing is considered as one of the main challenge or barriers for pressure ulcer prevention as it requires an adequate team of people and time to perform. (For instance: to perform repositioning for bedridden patients) (Lavallée, Gray, Dumville & Cullum, 2018). Similarly, nurses mentioned that turning the patient regularly, especially obese patients, without adequate number of staffs is too challenging (Barakat-Johnson, Lai, Wand & White, 2019). On the other hand, poor staffing levels of nursing homes have unable nurses to participate in proper training and education sessions related to pressure ulcers. (Lavallée et al., 2018)

Understaffing leads to increase in number of temporary staff member in an institution. Increasing in number of transient workforces affects in the continuity care of patients and important shared information related to pressure ulcer prevention could not be passed to other colleges (Lavallée et al., 2018). Furthermore, understaffing is creating a problem due to which nurses could not provide an optimal pressure ulcer care for patients (Fossum, Alexander, Göransson, Ehnfors & Ehrenberg, 2011). Finally, application of recommended guideline in daily working environment have been challenging due to lack of qualified nurses' staff (Meesterberends, Halfens, Lohrmann, Schols & Wit, 2011)

**b) Increase workload**

The process of conducting Pressure injury prevention and management (PIPM) requires steps such as assessment, diagnosis, documentation and management interventions. Such steps place a great time pressure for nurses within short time period of working hours. Nurses are already being overloaded with lots of paperwork as well as many other important things to carry out. So, the nurses reflected that increase workload and inability to perform steps of PIPM into their daily work have prevented them from giving quality nursing care (Barakat-Johnson et al., 2018). Similarly, Chaboyer & Gillespie (2014) found that adding new things such as Pressure ulcer prevention (PUP) care bundle to the nurses' work might increase their work when they are already busy and create barrier to adopt new things such as PUP care bundle. So, high workloads mean less priority will be given to pressure ulcer prevention (Sving, Gunningberg, Högman & Mamhidir, 2012).

**c) Patient Characteristics**

Characteristics of patients or residents could be barriers for active participation in pressure area care, such characteristics are as follows (Mcgraw, 2019):

**i) Physical and sensory capacity**

Patient with comorbidities such as stroke, malnourishment, incontinence, obesity, fragility, underweight, old age or clinically weak are not able to perform health promoting activities as well as act as an obstacle for nurses to provide effective pressure injury prevention and management. In relation to sensory capacity, presence of pain limited mobility and refusal to repositioning. Whereas, absence of pain as in spinal cord injury patient leads to non-alertness of brain to skin damage causing pressure ulcers in multiple locations. (McGraw, 2019; Barakat-Johnson et al., 2019).

**ii) Cognitive capacity**

Several studies (McGraw 2019; Roberts, McInnes, Wallis, Bucknall, Banks & Chaboyer, 2016; Lavallée et al., 2018; Barakat-Johnson et al., 2019; Meesterberends et al., 2011) have mentioned that patient with cognitive impairment such as dementia, delirium, or confusion are often unable to participate in pressure ulcer preventive care due to their self-limited

capacity or not being able to understand information. Such patient sometimes refused assistance provided by nurses, which leads to poor adherence as well as made challenging for nurses in delivering pressure ulcer care. Even patients, who have mental capacity to understand sometimes refuse to follow recommendations. Such resistance of patients or residents is seen as challenges for nurses.

#### **d) Caring Cultures**

The performance of Pressure Ulcers (PU) preventive measures by nurses depends on the caring cultures of work units. For example: According to the study, Sving et al. (2012), the willingness to perform PU prevention recommendation varied in three wards. In the first Ward, nurses followed the recommended PU prevention guidelines and planned activities according to guidelines in their daily work. But, in the second ward, nurses have aimed to develop and work according to recommended guidelines but mentioned difficulties to work because of lack of acceptance among colleagues whereas in the third ward, nurses have not used any structured guidelines of PU prevention and have unplanned work related to PU preventive measures. Therefore, lack of structure and routines of working units leads to failure in PU care and made it more challenging for nurses. (Sving et al., 2012).

#### **6.1.2 Knowledge and Skill**

Lack of knowledge and skills about pressure ulcer prevention and treatment among nurses and nurse assistants are still consistent in nursing homes as well as hospitals, which serve as a barrier for nurses to provide an effective pressure ulcer (PU) care. Not all the nursing staff have specific hours of education in PU area. Most of the nursing home staffs responded that education regarding PU should be provided most frequently and must be made compulsory. Some nurses also felt that the knowledge is lacking, and more education is needed. Even though education about PU are provided in nursing homes, it is not made obligatory for nurses. Therefore, knowledge level of nurses regarding PU remains questionable that is it adequate and up to date or not. Some fact from study revealed that nurses are lacking knowledge in PU prevention. For example: Some of the nurses answered that repositioning is not necessary if the resident is already lying on the pressure relieving air mattress. (Meesterberends et al., 2011).

Nurses and student nurses accepted that they have been taught about the importance of pressure ulcer prevention in their nursing schools as well as training, but they never placed fully attention to its importance until and unless they met or care patients having worst pressure ulcers. After encountering the patients with worst pressure ulcers, nurses learned to care better for pressure ulcers and placed importance on its prevention too. Therefore, providing appropriate care for pressure ulcer prevention depends on nurses' experiences and how they place a value on it. (Samuriwo, 2010).

Several studies (Meesterberends et al., 2011; Lavallée et al., 2018; McGraw 2019; Barakat-Johnson et al., 2019 & Samuriwo, 2010) revealed that lack of knowledge about pressure ulcers leads to misdiagnosis and misdocumentation such as pressure ulcer is documented as skin tears and dermatitis. So, the nurses mentioned need for education in proper diagnosis and classification of pressure ulcers. On the other hand, community nurses and tissue viability nurses mentioned that lack of caregivers' knowledge regarding skin changes of residents and not reporting them on timely manner. Such sorts of lack of ability of caregivers leads to further deterioration of skin and develop pressure ulcers. Similarly, referring number of inappropriate cases to tissue viability nurses shows lack of skills among caregivers to assess and manage pressure ulcers. Furthermore, lack of implementation of PU guidelines and difficulties to evaluate resident with high risk of developing pressure ulcers indicates lack of knowledge among nurses.

### **6.1.3 Documentation and Communication**

Documentation is crucial part of patient care because it reports what has been done, what care will be needed in future and very important for handover (Bakar-Johnson et al., 2019). Communication among healthcare staffs occurs mainly through documentation and nurses expect from healthcare assistants to inform them any changes to the residents (Lavallée et al., 2018) So, effective communication is regarded as fundamental part of person-centered care (McGraw 2019). Similarly, properly documented information is important for making appropriate decisions related to patient care and communication tool between staff (Skytt, Engström, Mårtensson & Mamhidir, 2016).

In the study, Sving et al. (2012) stated that lack of documentation and proper care plan about PU prevention care as well as deficiency in communication between nurses and nurse assistants. Such inadequate nursing documentation and communication has resulted into lack

of proper food intake and repositioning of residents. Nurses agreed that proper documentation is fundamental part of patient care however, nurses felt unable to complete proper documentation due to large volume of other mandatory work imposed on them resulting into fragmented nursing documentation (Bakarat-Johnson et al., 2019). Fragmented documentation is considered as of little value in good decision-making process and leads to unavailability of important information for all healthcare members. Therefore, lack of proper documentation and good communication is problematic and challenging for nurses to provide safe and effective care to patients (Skytt et al., 2016).

## **6.2 Good nursing care**

In order to find out type of good nursing care that could be able to help to prevent pressure ulcers, authors found out two categories from the twelve articles. They are Organization in health care systems and Implementation in pressure ulcers prevention. Each category contained two (guidelines and maintenance of equipment) and four subcategories (multi-professional tasks, teamwork, education and communication) in this question.

### **6.2.1 Organization in health care systems**

Good organization could reduce the rate of staffs leaving the workforce. Well-functioning organization developed effective patient care. Also, the manager should know how to take part of all stages of values and belief as means to guide the process of organization. (Hommel, Gunningberg, Idvall & Bååth, 2017)

#### **a) Guidelines**

Organizational support with policies and guidelines is critical to make certain effective pressure ulcer prevention. Especially success education based on organizational support. Support during the education ensure staffs approach the goal and even could help staffs to attend if there is educational resource available. (Barakat-Johnson et al., 2019) Organized work based on structured guidelines and the working method guide nursing care to be safe and help to identify the risk of pressure ulcer in early stage. Nutritional assessment and care plan were done by the ward according to followed guidelines. (Sving et al., 2012)

Nurses thought pressure ulcer prevention care bundle helps patients to understand why they need to have certain reposition, because some patients refused to move themselves or being turning by staffs. Once they understood the meaning of repositioning, they are more likely to be more active and less complaining. (Roberts et al., 2016) It is necessary to put the care bundle in the practice routine and make sure the health professions to use the bundle in daily work. (Chaboyer & Gillespie, 2014). Risk assessment is central to indicate quality of care and it is important to give the instruction to use the scales. The measure should meet the standards in order to achieve the goal of care. (Skytt et al., 2016)

#### **b) Maintenance of equipment**

Pressure relief equipment is needed to be fixed and reviewed and provide the information of use. (Hommel et al., 2017) Medical devices such as hospital beds, pressure-relief mattresses could help the pressure wound but they supposed to be taken care of the qualities and maintain the function. (McGraw, 2019)

### **6.2.2 Implementation in pressure ulcers prevention**

Collaboration with diversity of health care team members is reported as a facilitator of pressure ulcer prevention. (Lavallée et al., 2018) The benefit of pressure ulcer prevention care bundle for nurses and patients is consisted of awareness the concept of pressure ulcer prevention, improve the communication among patients and staffs, as well as active participants to take part of it. (Roberts et al. 2016)

#### **a) Multi-professional tasks**

It is vital to recognize caring role among each health care professionals. The roles and responsibilities in daily work are linked to effective pressure ulcer preventions. (Lavallée et al., 2018) Every healthcare profession has a clear care task and obvious responsibility. All of them are important in an interprofessional team. (Hommel et al., 2017) One article mentioned about pressure ulcer policy and three of categories are pressure ulcer committee, tissue viability nurse and staff nurses/nursing assistants. All of them have their own tasks and responsibility to act and implement for working on pressure ulcer guidelines. Committee organized the care; specialized nurse answered the questions regarding to the pressure ulcer

prevention or treatment. Nurses pay attention to the wound round. (Meesterberends et al., 2011)

Nurses mentioned it is necessary to have a person to lead and manage the implementation while using pressure ulcer prevention care bundle. Leadership could lead influence by using hospital indicators and show the staffs the importance for implementation. (Roberts et al., 2016) Sometimes management is expected to have whole responsibility on quality of care, but it could put too much stress to the manager to deal with the all the communication or resource in the ward. It is possible to develop the understanding between every health care role and responsibility of patient care. Once they have awareness of the role, staffs are more likely to control the prevention cases and the manager could give help according to the assessment results. (Skytt et al., 2016) The way of nurse managers' thoughts and agreement are determining to lead the staffs to be active with pressure ulcer prevention. (Hommel et al., 2017)

#### **b) Teamwork**

When nurses build up relationship, they can be together in order to have more understanding of patient, such as symptoms, assessment, and diagnosis. (Fossum et al., 2011) Trust and have conversation with other nurse assistances because they are well informed and experience in the field that could sort out pressure ulcer prevention deal on their working task. Nurse staffs have discussion with patients' needs together and work on the schedule of repositions. (Sving et al., 2012)

Collaboration is important between health care professions and knowing every staff's knowledge is needed regarding pressure ulcer prevention. (Sving et al., 2012) Balance the task between different health care professions and unite them to be in a team. Through teamwork can lead skin inspection to be ongoing and supervise the patient who is at risk. Communication with team members is likely to promote the routine to be done properly and communication becomes aware of teamwork and contribute the team to be success in performing wound round and shift reports. (Dellefield, 2014)

**c) Education**

Evidence based knowledge is necessary to every health professions. It is not only scientific knowledge but also practical knowledge. The understanding improved gradually by practice and experience. Theoretical and practical education related to patient safety are provided to care personnel. Practical education also included different types of aids instruction and test the function regularly. (Hommel et al., 2017)

Nurses learn and update the knowledge from variety of resource. They may participate the meeting in order to acquire useful pressure ulcer prevention information. Or even obtain the information from the manager or the department. Information access can go through different way such as talked with specialized wound care nurse, read textbook or national guideline, learn how to use the equipment and documentation. (Dellefield, 2014) In order to promote better incorporation between health care providers and patients. One to one or group teaching session could support them to knowing care form. The training could be found in variety source, such as community education group, and area health authorities. (McGraw, 2019)

Education needs to ensure nursing staffs are obliged to participate and clinical lessons should include the area of pressure ulcer prevention care correspond with appropriate level. (Meesterberends et al., 2011). Nurses are introduced the widely used assessment tool for pressure ulcer prevention which is called Braden Scale score. Braden Scale score is related to knowledge and it showed helpful in risk assessment effectively. (Dellefield, 2014) Nurses think education sessions should introduce the care bundle to staffs and they must be familiar with it and be trained how to use. Also, the session should hold frequently, comprehensively, briefly. (Roberts et al., 2016)

In the training program which could provide information, draw pressure ulcer prevention strategies and strengthen the message. The training resources could bring a clear reminder and more understanding. (Chaboyer & Gillespie, 2014). The practice brings the nurses to learn more about pressure ulcers. They are positive and strong with the issue after the post-registration education. The knowledge was built up firmly after being through years of clinical experience and day to day practice. (Samuriwo, 2010)

#### **d) Communication**

Open communication and discussion approach to prevention, patients' needs can change constantly. Person-centred care is allowed patient to choose and meet their desire. It is important with patients' cooperation and consult with patient while they need position turning and balanced nutrition. (Hommel et al., 2017) Communication is identified as a good interpersonal skill. Communication can be presented in documentation which brought the information for the condition of the patient. The documentation could record the previous events as well as could be used to future plan. (Lavallée et al., 2018)

## **7 Discussion**

This chapter deals with mainly two section: Result discussion and Method discussion. In result discussion, key findings of the study related to challenges and good care will be reviewed and linked to the background and theoretical framework of the study. In the Method discussion, the trustworthiness of the method used in study will be discussed.

### **7.1 Result discussion**

The challenges confronted by nurses in their daily working life were found mainly in three categories. The first challenge that nurses faced were discovered within different circumstances of their workplace, such as understaffing and transient workforce, increase workload, patient characteristics, and caring cultures. Due to understaffing, nurses have been prevented from performing one of the most recommended PU guideline measures, which is repositioning of patient. According to Mcinnes et al. (2015), one of the main goals of PU prevention strategy is to reduce duration of pressure between patient and his/her support surfaces, which could be achieved by regular manual repositioning. Moreover, understaffing results in lack of optimal pressure care because it prevents nurses from participating to training and education programme as well as increase in number of temporary staffs affecting the continuity of care. The results indicate that overloading work of nurses by adding new thing such as PUP bundle care, PIPM steps might affect priority given to PU prevention by nurse. Patient characteristics such as physical & sensory capacity (i.e. stroke, malnourishment, obesity, old age, spinal cord injury) and Cognitive capacity (i.e. Dementia,

delirium) have created barrier for nurses as patients are unable to participate in health promoting activities and prevention care. Although this aspect of challenges is less noted, but result has shown that traditions and routine of performing work in different wards affects nurses to perform PU preventive measure

The second category challenges were mainly linked to *Knowledge and Skills*. Results indicate that lack of knowledge and skills regarding PU prevention and care among nurses and caregivers is still existing and act as a barrier for delivering proper PU care. The necessity of getting proper education and training in order to reduce misdiagnosis, misdocumentation of PU is found among nurses. The result highlighted about caregiver's inability to recognize signs of PU and inaccurate referrals have led to further deterioration of residents' skin and developed pressure ulcers. It was also figured out that nurses and nurses' students already have knowledge about PU prevention and care from nursing schools, however it was observed that they placed more value on its care and prevention only after they have encountered worst cases.

The final challenge that nurses faced were mainly found in *Documentation and communication*. Documentation and communication are regarded crucial part of good patient care. Proper documentation is means of communication tool between staff. The finding shows fragmented nursing documentation due to large volume of work for nurses have cause misplacement of important information about PU prevention care among health care staffs. Therefore, inadequate documentation and communication is challenging for nurses to provide safe and effective care for patient.

In order to pay attention to the study question of good nursing care. Good organization could promote health care system and develop effective care. There are two sub-categories under organization which are guideline and equipment maintenance. Guidelines support nurses and help them identify the working method and enable them to take notice on the early stage of pressure ulcer development. They also can follow the guidelines to make the assessment and the care plan. Maintenance of equipment regularly is important to keep the quality of care. With the purpose of providing care among pressure ulcer sector, it is necessary to keep the equipment in a good condition.

Implementation is also the part of good nursing care which means putting the plan into action. Four sub-categories belong to implementation which are multi-professional tasks, teamwork, education and communication. Every health professional has their own tasks in their fields,

and they are responsible to their daily work. Leaders in health care team could manage the practice and indicate the duty of each health care role. They also can help to sort out communication problems between different health care professionals. Teamwork could establish working relationship firmly. Collaboration could make patient care to be more effective. Also, teamwork can help to inspect risk of pressure ulcer in order to contribute prevention in advance. Theoretical and practical education are basic requirement to build up the knowledge of pressure ulcers prevention. Education included different form that could be group training and community education. It should ensure nurses participate the training program and the courses need to be comprehensive and understandable. Communication required good skills and should be open with patients together. Communication also brought into documentation which could record previous circumstance and prospective plan.

Jean Watson's theory have been applied on the finding. The number "8" Caritas factor is "attending to a supportive, protective, and/or corrective mental, social, spiritual environment". Jean Watson mentioned the environment of hospital has been improved past two decades, but it is still hard to change the schedule, tradition and routine to meet patients' need. The caring nurses use the techniques to provide comfortable environment in order to perform pain control and reduce human suffering. This concern is required to pay attention all the time. (Watson, 2008). However, we have already noticed that the result showed lack of staffs, excessive workload, patient characteristics, and ongoing old routines of wards presented as the challenges to nurses while trying to pay an attention to reduce human suffering and provide comfortable environment for patients.

The concept of safety is a basic component for health care professionals, and it is part of caritas processes. Safety also affects nurses' activities in all level of caring. Nurses demonstrates safety issue including knowledge. Maintaining safety is crucial for the patient who is not able to self-control in the environment and nurses should take extra care to support, correct and protect them to facilitate their function. (Watson, 2018). Skin care, repositioning as well as transferring patients may require different medical devices, and nurses have responsibilities of learning how to use that equipment and perform it in safest way. Theoretical education as well as practical training could help to update and strengthen the knowledge, which is very essential for patient safety.

## 7.2 Method discussion

A research that is done with the aim of producing new knowledge, where produced knowledge should be trustworthy as well as reliable to readers (O’leary, 2010). But, upholding an integrity and maintaining high-quality of study has been challenging issue as well as controversial task. For the study to be considered as of “high-quality”, certain standard criteria need to be met. There are several trustworthiness evaluation criteria for qualitative studies have been recommended. Among them, most widely used evaluation criteria is “Lincoln and Guba’s framework of quality criteria”. This criterion is often seen as “gold standard”. The four recommended criteria for assessing the trustworthiness of qualitative research are Credibility, dependability, conformability, and transferability. Later, fifth criteria that is authenticity has been emerged as a result of response to criticism and researchers developing views. (Polit & Beck, 2018; Elo, Kääriäinen, Kanste, Polkki, Utriainen & Kyngäs, 2016). This chapter provides an insight to evaluation of study based on Lincoln & Guba’s criteria.

According to Lincoln and Guba (as mentioned in Polit & Beck, 2018, p295,296), for ensuring research credibility, a research must be carried out in the way that increase the accurateness of findings as well as shows credibility to readers. Credibility means establishing the confident in the truth of findings regarding participants and context in research. (Polit & Beck, 2018). In the context of credibility, this study has used appropriate data and analysis method for showing credible findings. A 12 peer-reviewed articles have been collected based on inclusion and exclusion criteria by using trustworthy databases, (such as EBSCO, CINAHL, PubMed), keeping a research question in mind and using appropriate analyzing method (i.e. Qualitative content analysis in a deductive way).

Another criterion includes dependability, which means stability of data over time and under different conditions. The dependability is reflected when the findings of one study is repeated in another study by using similar context and participants as previous one. Credibility cannot be achieved without dependability. (Polit & Beck, 2018) Therefore, dependability criteria have been met by the result, since criteria for data collection, relevancy of collected data based on research question are clearly explained. So, if another study will be conducted by using similar data collection method, findings would be replicable in great extent.

For achieving the confirmability criteria in finding, presented data must be accurately provided by a participant and the interpretation of data is not imagined and written by an inquirer. (Polit & Beck, 2018) Our study findings mainly rely on interpretation done based on collected articles. As mentioned above, the articles used for analysis are all peer-reviewed and collected through trusted databases.

Transferability means the findings of the study could be applied in other settings or groups. The researcher responsibility is to provide accurate and enough data for readers to read and decide an applicability of data to another context. (Polit & Beck, 2018). Since, small amount of data (i.e. 12 articles) were used for analysis and getting result due to this, findings could not be generalized. However, study findings are transferable to some extent as the challenges and good care regarding pressure ulcer found in articles are those experienced by nurses in real working life as well.

## **8 Limitation of study**

Among the twelve articles used for the analysis, two of them consists of mixed method (i.e. qualitative and quantitative). However, for the analysis of the data, only the qualitative result portion has been used.

## **9 Ethical consideration**

The Belmont Report mentioned three ethical principles for the study research, and they are beneficence, respect for human dignity and justice. As we are doing a literature review, we do not contact with participants directly, so do not have to deal with the problems such as anonymity, right to prevent from harm and discomfort, right to protect from exploitation that information should be considered in advance. (Polit & Beck, 2012)

However, we need to pay attention to the issue of research misconduct on literature review. Action of research misconduct included fabrication, falsification, and plagiarism. Fabrication is making up an unrealistic data without supportive studies. Falsification means the research is not based on the fact and try to change the result. Plagiarism involves using someone's original work or idea by copying without any credit. (Polit & Beck, 2012)

## **10 Conclusion**

To sum up, pressure ulcers prevention in elderly is a big challenge among nursing care. The study questions have been mentioned which showed the dilemma and challenges were faced by nurses in health care. Challenges were found within the context of nurses' daily working environment, knowledge level, caring as well as documenting skills. Good nursing care in institutionalized health care could be provided and those factors could boost the concern of pressure ulcer prevention. Challenges and quality of nursing care are interconnected and have influence on pressure ulcers prevention process. Environment and working relationship are also associated with health outcomes. Nurses have the ability to recognize the problems of care and involved in planning pressure ulcers prevention in all levels.

It is necessary to provide nursing staff training session about the prevention skills for pressure ulcers in the elderly care. Because knowledge is a crucial point in improving the quality of life for the elderly people and affect nurses to make decision. However, there is not a clear criterion regarding how much competence nurses should have in the field of preventing pressure ulcers. It would be interesting to continue the assessment of nursing knowledge for future study in pressure ulcers prevention. Health care organizations and leaders should make efforts to improve their ability, which can be an important step to increase the satisfaction of caring in elderly as well as the quality of nursing care.

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## 12 Appendix 1. Matrix of articles used for the study

Author & Journal	Name of study	Aim	Research Method	Result
Lavallée, J. F. (2018). International Journal of Nursing Studies, 82, pp. 79-89.	Barriers and facilitators to preventing pressure ulcers in nursing home residents: A qualitative analysis informed by the Theoretical Domains Framework.	To understand the circumstances of pressure ulcer prevention in nursing home and find out the barrier and facilitators in practices.	Qualitative.	This study reveals about the barriers and facilitators for pressure ulcer prevention. The barriers are knowledge, physical skills, social influences and environmental context and resource. Also, the facilitators are interpersonal skills, environmental context and resources, social influences, beliefs about capabilities, beliefs about consequences and social/professional role and identity. The result focus on the need of support for health care staffs in prevention practices by focusing at several factors.
Dellefield, M. E. (2014). Geriatric Nursing, 35(2), pp. 97-104.	Pressure ulcer prevention in nursing homes: Nurse descriptions of individual and organization level factors.	The study is to describe nurses' perceptions of individual and organization level factors affect pressure ulcer prevention care.	Qualitative & quantitative.	Pressure ulcer prevention care combined with individual nurse and organizational context in practice. Individual level factors are nurses' attitudes, beliefs and values; use Braden Scale score for risk assessment. Organization level factors are teamwork and communication. The factors help to identify facilitators and barriers for pressure ulcer care delivery.

<p>Chaboyer, W. (2014). Journal of Clinical Nursing, 23(23-24), pp. 3415-3423.</p>	<p>Understanding nurses' views on a pressure ulcer prevention care bundle: A first step towards successful implementation.</p>	<p>To look at nurse's perspective of barriers and facilitators through patient-centred pressure ulcer prevention bundle.</p>	<p>Qualitative.</p>	<p>Using pressure ulcer prevention care bundle is beneficial to promote patient care. Patient's willingness to participate and nurses' willingness to incorporate for the routine work can prompt success of the care bundle.</p>
<p>Skytt, B. , Engström, M. , Mårtensson, G. and Mamhidir, A. (2016). Journal of Clinical Nursing, July 2016, Vol.25(13-14), pp.1912-1922</p>	<p>A longitudinal qualitative study of health care personnel's perceptions of simultaneous implementation of three risk assessment scales on falls, malnutrition and pressure ulcers</p>	<p>To understand health care personnel's expectations and experiences of participating in an intervention aimed at the implementation of three assessment scales for fall injuries, malnutrition and pressure ulcers, and performance of preventive measures in these areas</p>	<p>Qualitative.</p>	<p>The study shows that working approach including three risk assessments was perceived positive and as central to ensure quality of care. It provided collaboration and shared understanding among health care personnel which could improve patient safety and provide valuable insights into patient needs and measures to be taken for good care. On the other side, problematic issues such as shortcomings in obligatory documentation, health team cooperation challenges are identified as a risk to patient safety.</p>
<p>Fossum, M. (2011). Journal of Clinical Nursing, 20, p. 2425.</p>	<p>Registered nurses' thinking strategies on malnutrition and pressure ulcers in nursing homes: A</p>	<p>The aim was to inspect the thinking strategies and clinical reasoning processes on</p>	<p>Qualitative</p>	<p>There are many thinking strategies were used in nurses' clinical reasoning to prevent malnutrition and pressure ulcers. The study found out making choice, building up</p>

	scenario-based think-aloud study.	malnutrition and pressure ulcers that registered nurses used for care plan in nursing home.		relationship, drawing conclusion are most common used for thinking strategies. Also, nurses have tendency to make care plan immediately in reasoning processes.
Hommel, A. (2017). <i>Journal of Clinical Nursing</i> , 26(1-2), pp. 182-189.	Successful factors to prevent pressure ulcers – an interview study.	To explore effective factors of pressure ulcers prevention in hospital settings.	Qualitative.	Successful factors of PU prevention imply on both levels (i.e. individuals and organizational). The goal of all healthcare personnel is to provide high quality and sustainable care to patients. Therefore, this study suggests three successful factors to succeed with PU prevention are: create a good organization, maintain persistent awareness and realize the benefits for patients.
Mcgraw, C. A. (2019). <i>Journal of Clinical Nursing</i> , 28(3-4), pp. 575-588.	Nurses' perceptions of the root causes of community-acquired pressure ulcers: Application of the Model for Examining Safety and Quality Concerns in Home Healthcare	To explore how the context of care influences the development of community-acquired pressure ulcers from the perspective of nurses working in home healthcare settings.	Qualitative.	The context of care for prevention and management of pressure ulcer is different in community settings as compared to hospitals concerning patient and provider characteristics; nature of home healthcare tasks, social and community environment, new medicine technology, physical and external environment. This study represents experience and perceptions of community settings nurses in above mentioned context. Similarly, approaches to address identified risks were established in this study.

<p>Samuriwo, R. (2010) <i>British Journal of Nursing</i>, 19(Sup10), pp. S8-S18.</p>	<p>Effects of education and experience on nurses' value of ulcer prevention.</p>	<p>To explore the value that nurses put on pressure ulcer prevention.</p>	<p>Qualitative.</p>	<p>The findings of study reveal that how nurses value changes from low to high in terms of pressure ulcer care. After encountering high grade pressure ulcer, nurses value changed dramatically for pressure ulcer care. So, the education gained by nurses about pressure ulcers only modify their values when they have experience of looking after some pressure ulcer.</p>
<p>Meesterberends, E. (2011). <i>Journal of Evaluation in Clinical Practice</i>, 17(4), pp. 705-712.</p>	<p>Evaluation of the dissemination and implementation of pressure ulcer guidelines in Dutch nursing homes.</p>	<p>To investigate the current situation regarding pressure ulcer guideline dissemination and implementation in Dutch nursing homes.</p>	<p>Qualitative.</p>	<p>The results show that pressure ulcer prevention and treatment guidelines were not updated in all nursing home. Passive strategies as providing materials by mail or written form still exists. Risk assessment scales are not used, and repositioning scheme were not available in practice. The knowledge of the guidelines is lacking, and PU education is deficient. Barrier to apply the guideline is associated to personnel and communication.</p>
<p>Roberts, S. (2016). <i>BMC nursing</i>, 15, p. 64.</p>	<p>Nurses' perceptions of a pressure ulcer prevention care bundle: A qualitative descriptive study.</p>	<p>To explore nurses' perceptions of pressure ulcer prevention care bundle and to know the impact and how it works in practice</p>	<p>Qualitative.</p>	<p>Nurses found the care bundles are beneficial and they can improve the communication, understanding and participants in pressure ulcers prevention care.</p>

Sving, E. (2012). <i>Journal of Clinical Nursing</i> , 21(9-10), pp. 1293-1303.	Registered nurses' attention to and perceptions of pressure ulcer prevention in hospital settings.	To described how registered nurses, participate the care issue of pressure ulcer prevention in hospital wards.	Qualitative& quantitative.	The study showed registered nurses have deficient attention on prevent pressure ulcers among patients in hospital. Caring culture, plan or unplanned structure affected on patient care. Lack of attention and few pressure ulcer prevention activities are performed.
Barakat-Johnson, M. (2019). <i>Collegian</i>	A qualitative study of the thoughts and experiences of hospital nurses providing pressure injury prevention and management.	To understand nurses' thoughts and experiences in pressure injury prevention and management in hospitals.	Qualitative.	Four topics were identified in nurses' experience when they provide pressure injury prevention and management. They are managing competing demands in complex clinical settings; The important of knowledge and skills; Clarify organizational expectations, purpose and successes and ethically challenged when unable to provide quality patient care.