Home Care Nurses Experiences on Chronic Wound Care-Literature review

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Laurea University of Applied Sciences **Abstract**
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There is a lack of studies that detail how home care nurses feel about the wound care they deliver. Home care nurses play a significant role in the care of patients with chronic wounds, but their experiences on the care of individuals with such wounds is poorly describe. To better understand their experiences, a literature review is needed. Thus, the purpose of this study is to describe home care nurses' experiences on the care of chronic wounds. The aim is to identify home care nurses` experiences of chronic wound care regarding assessment, technique, and documentation.

The information was acquired from trustworthy databases such as CINAHL, PubMed, and ProQuest via the University's online database Laurea Finna. Ten papers were chosen as data for this study based on inclusion and exclusion criteria. An inductive content analysis was performed, and the data acquired was classified using a content analysis table. The study question was, "what kind of experiences do home care nurses have about chronic wound care".

Findings were summarized into three main themes: physical distress in malodour and coping mechanisms, importance of nursing competence in wound care, and collaboration experiences. Nursing patients with chronic wounds has been found to be as a distressing experience for nurses physically due to the malodour of malignant fungating wounds, mentally, because they were unable to provide adequate care for their patients suffering, and professionally, due to the lack of evidence-based knowledge in wound care, confusion in wound care procedures and treatments, and work collaboration difficulties with patients, colleagues, and General Practitioners (GP). Coping defenses was the only way for them to manage these experiences due to the lack of organizational support and training about these challenging areas in home care nursing. For future studies, it would be beneficial to review the evidence-based guidelines on chronic wound care and research-based decision making of home care nurses.

Keywords: Home care, Home care nurse, Nurse experiences, Chronic wound, Wound care

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1 Introduction

For more than 150 years, nurses have assessed and treated patients with wounds. Traditionally and generically, wound healing (Prakash et al. 2022) has been under the patronage of basic nursing care practice encompassing dressings and infection (Prakash et al. 2022) control but also promotion of therapeutic nutrition, mobility, psychosocial support, hygiene, and comfort. At all levels, in practice settings spanning from critical care through palliative care, from hospitals to battlefield, and from gene therapy to gauze, it is the registered nurses with the help of assistant nurses who are principally caring for patients with wounds. (Prakash et al. 2022; Sen 2019; Agale 2013; Corbett 2012).

A chronic wound occurs when the wound fails to advance through the expected stages of wound healing in a timely manner (Prakash et al. 2022; Sen 2019; Morton & Phillips, 2015). Venous leg ulcers, pressure injuries and diabetic foot ulcers are the most common types of chronic wounds and the majority of these occur in older persons (Pacella, 2017) with 3 or more comorbid conditions including hypertension, vascular disease, arthritis, and diabetes (Friedberg et al., 2002). With an ageing population, the rate of people living with a chronic wound continues to rise in an environment where current wound care lacks the resources required to provide evidence-based practice (Prakash et al. 2022; Sen 2019; Agale 2013; Pacella, 2017).

Studies in the UK, Canada and the US have shown that 25–35% of all individuals with chronic wounds in the community are cared for in their own home (Friedberg et al., 2002, 192) while in Europe, 70–90 % of wound care is conducted within the community being delivered by nurses (Prakash et al. 2022; Sen 2019; Genet 2011, 207).

Complicated and long-lasting wound care are moving from specialists in wound care at hospitals towards community home care nurses without specialist wound care knowledge. Little research has sought to uncover how community nurses handle the task of wound care on patients with chronic wounds. (Prakash et al. 2022; Sen 2019; Probst et al. 2014.)

Therefore, the purpose of this study is to describe home care nurses’ experiences on the care of chronic wounds, and it aims to identify the home care nurses` experiences of chronic wound care regarding assessment, technique, and documentation.

2 Theoretical Framework

To further put this study into proper perspectives, the following key concepts were formulated to aid understanding of the thesis topic better, and they are in line with the title, purpose and aim of this study. These includes home care, home care nurse, nurses' experiences, chronic wound and wound care. The figure 1 below illustrate the key concepts.

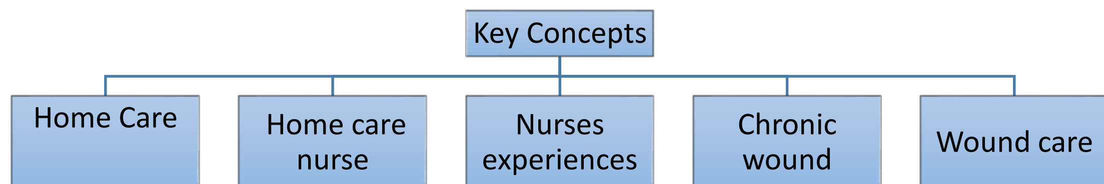


Figure 1. Key Concepts

2.1 Home Care

The Home Care Services Unit of the Helsinki Health Centre in Finland organizes nursing, care and the necessary support services in order to maintain the health and functionality and offer care in cases of illness or disorders of the elderly, convalescents, patients suffering from chronic illnesses and disabled people over the age of 18. The objective is to secure the customer's active and safe living at home. (Helsinki 2022.)

Moreover, home care nursing entails nursing and rehabilitation services prescribed by a doctor, taking place at home. A doctor's referral is required in order to receive home nursing services. If it is not possible to organize these services in another manner, customers of the Home Care Services receive the health care and nursing services they need at home. An individual service and care plan is prepared for each customer of the Home Care Services team. The plan is prepared together with the customer and their relative/other trusted person. (Helsinki 2022.)

Home care in the Nordic nations is mostly organized by public social and health care in the local community like in Denmark or in municipalities country like Finland and Sweden and according to an EWMA document (2014) quoted in research by Probst et al. (2014) about half of Sweden's 270 municipalities have complete medical duty, as well as social services responsibility, which is supplied by the county council after a nurse consultation (Socialstyrelsen 2019). Social services are responsible for the remaining 50% of towns, although medical care is supplied by the county council, and registered nurses are not involved in home care. Finland has 320 municipalities, and social and health care is the most important sector of municipal activities and the foundation of the Finnish welfare system. Municipalities are responsible for people's basic health and social rights, and they can offer these services directly or hire private service providers. (Probst et al. 2014; Socialstyrelsen 2019.)

In Sweden, private home care services are available that are compensated by the government, therefore there is no difference in service quality between the private and public home care sectors. In the Nordic countries, wound care for patients at home is coordinated in a variety of ways. Wound treatment, for example, is coordinated in Sweden by the hospital or health care center, the district nurse, the municipality nurse, or even a skilled health care assistant. (Probst et al. 2014; Socialstyrelsen 2019.)

In Finland, a General Practitioner (GP) in home care or a health care center is in charge of care coordination. In rare circumstances, the hospital-based GP or clinical specialist can also coordinate wound care for patients at home (Probst e al. 2014). The municipality is responsible for arranging services for residents based on individual care and service plans or temporarily due to a change in living circumstances. In comparison to these, services are provided to residents' homes, temporary living spaces, or other locations. (Healthcare Act 1326/2010.) The primary focus of the care is the client's decreased ability to cope at home as a result of a change in life circumstances or a loss of functional capability. The type of home care can vary depending on the specific plan. It might range from assisting with hygiene and housekeeping to more demanding assistance with medication and palliative care. (Ministry of Social Affairs and Health, 2014). In 2021, there were 17 000 people working in home care in Finland, with 74 percent of them being practical nurses and 12 percent being nurses or public health nurses. Adequate resources, practice improvement, and effective leadership are all required to provide high-quality home care (THL 2022).

2.2 Home care nurse

Home care nurses provide care outside of acute care hospitals such as at home general health care facilities, community hospitals, police control, schools or nursing homes (Your world healthcare 2020; wiki2 2021). Home care nurses are registered nurses, assistant nurses or

associate nurses. However, in the UK they are called district nurses working for the United Kingdom`s National Health Service and they manage care within the community and lead a team of nurses and support workers in the community (NHS 2021; Spilsburyetal 2013; Definitions 2022). Their responsibilities include providing counseling and care such as home patient visits, palliative care, wound management, catheter and excretion care and medication support. Their work includes both follow-up of newly discharged inpatients and long-term care patients with chronic illnesses who may be referred by many other services. (Spilsburyetal 2013; NHS 2021; Wikipedia 2022). District nurses help elderly people stay in their homes, help them stay independent and evaluate them to receive additional assistance on discharge. District nurses provide wound care, train caregivers or assistant nurses, administer eye drop medications if individuals are unable to administer on their own. Assist in catheter care, complex home medicine and leads a team of nurses who can administer the vaccine in addition to treatment. District nurses can provide advice and support on health issues, give referrals to other organizations and specialize in different areas such as palliative care (NHS 2021; Spilsburyetal 2013; Wikipedia 2022; Definitions 2022).

In Finland registered nurses on the home care team have the right and ability to make decisions related to nursing work and of professional work and demands. They have a strict professional responsibility for duties. They have therapeutic responsibilities for clients, care planning delivery and evaluation. Nurses are team leaders and are responsible for assistants or associate nurses to ensure that their expertise is competent. Spilsbury et al (2013) wrote, home care nurses are also responsible for initiating and updating treatment plan changes related to client dosing or treatment changes and if necessary, book medical consultations regarding the clients health, the safe delivery of pharmacological treatments in many different forms administration, and drug listing. Drug therapy guidance is an important part of the work of registered nurses in home care, part of their duties are also to administer medications for insulin and to test blood pressure, glucose, urine and stool, wound inspection, dressing change, personal care, hygiene, and nutrition management. They also test for weakness, bedsores and signs of infection, listen to family members concerns and answer their questions, monitor patient recovery and create reports for doctors (Eloranta et al. 2009; Pietikinen 2004.)

2.3 Nurses' experiences

Experience is a crucial component in the nurses' professional basis for treating chronic wounds. A frequent behavior among the nurses is to consult colleagues before treating a patient`s chronic wound, however, this contributes to the risk of low evidence-based practice. (Schaarup et.al 2017). Studies show that nurses lack research-based knowledge on wound care, necessary to provide adequate treatment as confirmed by previous studies of Smith-Strøm (2008). Turner

et al. (1994) had similar findings. Nurses uses verbal instead of written reports, and at times it was the patients themselves who reported treatment changes, such as bandage type, from one nurse to another. Lindholm et al. (1999) stated that inconsistent wound care may lead to suboptimal healing, pain, and impaired quality of life.

It has been suggested that the difficulty nurses have in managing these wounds is owing to lack of training in this area (Lo et al, 2008), whereas Wilkes et al (2003) suggested it is because these types of wounds are seen infrequently. Home care nurses working with this client group are also affected by these wounds and are not always fully equipped to manage their patients' needs as a result of lack of education, support and clinical supervision (Young 2005).

Lastly, in the study of Wilkes et al., (2003) and Piggin and Jones (2007), nurses have experience difficulties in dealing with malodour and it has been found to be the most distressing symptom associated with malignant fungating wounds. Understanding the nurse`s experience and the difficulties nurses are faced with when they care for patients with a wound can help to provide support and guide practice. The disfiguring and unpleasant nature of these wounds can leave nurses with lasting memories of the experience. (Taylor 2013.)

2.4 Chronic Wound

2.4.1 Definition of chronic wound

Chronic wounds do not heal in the same order as most wounds and in a predictable length of time; wounds that do not heal in three months are commonly dubbed chronic. (Mustoe 2005; Flen Health 2022; Wikipedia 2022). Chronic wounds appear to be stuck in one or more of the wound healing phases. They frequently stay in the inflammatory state (Snyder 2005; Taylor et al. 2005) and they may never heal or tend to heal slowly over time. (Augustine & Maier 2003; Flen Health 2022).

Chronic wounds do not follow the typical process of acute wound healing, which is a complex biological event consisting of four phases: haemostasis, inflammation, cell re-formation, and maturation. (EDIS 2022; Castren 2022; Krzyszczyk et al. 2018; Frykberg & Banks 2015). The largest group of chronic wounds are vascular wounds, diabetic wounds and pressure wounds. (Duodecim 2020; Frykberg & Banks 2015.)

2.5 Classification of wounds

Every wound has the potential to develop into a chronic wound. They are divided into four groups based on their etiology, each with its unique location, depth, and appearance: arterial, diabetic, pressure, and venous ulcers. Understanding the biology of a chronic wound is essential for effective treatment. Chronic wounds share some characteristics, regardless of their genesis, such as high levels of proinflammatory cytokines, persistent infections, the production of drug-resistant microbial biofilms, and senescent cells that do not respond to reparative stimuli. (Bowers et al. 2020.)

In statistics, between 32% and 51% of wounds are venous wounds. Between 11% and 27% of wounds are arterial wounds. (Körber et al. 2011; Forssgren et al. 2012; Jockenhöfer 2016). Atypical wounds account for approximately 10–20% of chronic wounds in wound clinic datasets (Jockenhöfer 2016; Shanmugam 2017). Atypical wounds include skin vasculitis, pyoderma gangrenosum, Martorelli's wound, or hypertensive wound, calcifalax, and malignant tumors (Isoherranen et al. 2019; Isoherranen et al. 2020). Between 18% and 27% of people with chronic ulcers suffer from diabetes. Other long-term illnesses such as hypertension, obesity and heart failure are also common adjunctive diseases in patients (Jockenhöfer 2016; Kelly & Gethin 2019).

2.5.1 Chronic leg ulcer

According to Duodecim (2021), chronic lower limb ulcers are a big issue that diminishes the patient's quality of life while also increasing health-care costs. The cornerstones of treatment include a thorough clinical examination by a doctor, a wound diagnosis, and a treatment plan from the start. Lower-limb wounds are circulatory in nature. If there is a wound on the limb and other conditions that may affect wound birth or poor healing, such as diabetes, hypertension, obesity, malnutrition, heart failure, and depression, the sufficiency of arterial blood circulation should constantly be examined. (Duodecimlehti 2021.)

As per the NHS (2022), a leg ulcer is a persistent (chronic) sore that takes longer than two weeks to heal. They typically appear on the inner of the thigh, slightly above the ankle. Cleaning and treating the wound, as well as employing compression (bandages or stockings) to promote blood flow in the legs, are common treatments. Atherosclerotic leg ulcers, which are caused by poor blood circulation in the arteries, diabetic leg ulcers, which are caused by high blood sugar associated with diabetes, vasculitis leg ulcers, which are caused by chronic inflammatory disorders like rheumatoid arthritis and lupus, traumatic leg ulcers, and last but not least, malignant leg ulcers, which are caused by a tumor of the leg's skin. The foot, rather

than the leg, is where the bulk of vascular disease or diabetes-related ulcers appear. (NHS 2022.)

2.5.2 Pressure ulcer

Chronic lesions induced by skin pressure are known as pressure ulcers. Bed-ridden patients who must lie down for longer periods of time and are unable to turn around in bed are more likely to develop pressure sores, also known as sleeping wounds. Pressure ulcers are especially a concern for those in intensive care units. Those with serious disorders, the elderly, and those with spinal cord damage are thus at a particularly high risk. A pressure ulcer affects about one out of every ten people who receive long-term care or assistance. (Terveyskirjasto 2019; Wikipedia 2022.)

It starts when a bone presses on the skin for a long period of time, restricting blood flow. The hips, lower back, buttocks, and heels are the most prevalent sites for pressure ulcers. It usually develops over several days, although it can develop in as little as a few hours in the very ill people. The skin at the pressure point first becomes red, then swells, and then it cracks. The pressure wound is painful as it progresses further, the reddish skin develops a crater-like deep wound that is difficult to treat, which often develops a bacterial infection. (Terveyskirjasto 2019; Wikipedia 2022.)

If there is no puss in the wound and its base looks clean and reddish in color, it can be washed with tap water or sprayed, even bathed to flush out secretions and dead tissue from it. If in the presence of black dead tissue (necrosis), then the doctor usually needs to remove these with sterile scissors or a knife. Antibiotic ointments are not effective and not recommended, as they can cause allergic reactions and selective antibiotic-resistant bacteria to the wound. VAC therapy device is used when pressure ulcer becomes chronic. (Terveyskirjasto 2019; Wikipedia 2022.)

2.5.3 Fungating malignant wound

Cancerous cells penetrating the skin and surrounding arteries causes malignant fungating wounds (MFW) (Grocott 1999; Vardhan et al. 2019; Frontiersin 2019). They are most common in breast cancer patients, although they also occur often in people with head and neck tumors (Maida et al. 2008; Young 1997; Vardhan et al. 2019; Frontiersin 2019). MFWs commonly develop at the primary tumour site as well as in the surrounding lymph nodes (Young 1997; Vardhan et al. 2019; Frontiersin 2019). Patients are affected by MFWs in a variety of ways, including discomfort, bleeding, and exudate. If a tumor is not properly treated, it might spread to

neighboring local tissue, resulting in vascular damage or serious ulceration (Mortimer 2003; Vardhan et al. 2019; Frontiersin 2019). MFWs can appear everywhere on the body, although they're most common in the breast (62%), as well as the head and neck (24 percent) (Naylor 2002). Because of a lack of registration and identification of MFWs in cancer registers, the prevalence of MFWs is unknown. (EWMA 2015; Reynolds & Gethin 2015.)

2.6 Wound Care

Wound care refers to the services provided by members of the health professions to patients (Medical Dictionary 2022). Any treatment that helps skin abrasions, blisters, cracks, craters, infections, lacerations, necrosis, and/or ulcers heal faster. Wound care consists of the following steps: 1. local skin care, including debridement and dressings; 2. careful positioning of the affected body part to avoid excessive pressure on the wound; 3. application of compression or medicated bandages; 4. treatment of edema or lymphedema; 5. treatment of infection; 6. optimization of nutrition and blood glucose levels; 7. use of supports and cushions; and 8. maximization of blood flow and oxygen. (Medical Dictionary 2022; Awwcone 2022.)

In the Nordic countries, wound care for patients at home is coordinated in a variety of ways. Wound treatment, for example, is coordinated in Sweden by the hospital or health care center, the district nurse, the municipality nurse, or even an expert health care assistant. In Finland, a GP in home care, or a health care station may be in charge of care coordination. (EWMA 2014.) Wound treatment reimbursement differs amongst Nordic nations in terms of dressings and wound care materials. Wound care materials are free for the patients in Sweden and Denmark, however in Finland, it depends on the municipality. (EWMA 2014.) The city of Helsinki distributes absorbing dressings and attaching products to its people. The distribution of wound care products begins with a physician or specialist in charge of the treatment's suggestion. The municipality's products are delivered for three months at a period, and each requirement is assessed individually. (Social and health-care services, 2015, pp. 2–6). Treatment equipment and gadgets, such as bandages and blood glucose meters, are free of charge if they are used to treat long-term disease, according to Laki sosiaali- ja terveydenhuollon asiakasmaksuista (1992/734). These products, such as those used for wound care, are taxed (Probst et.al 2014, 19-20). The reason behind the difficulties of home care nurses in wound care are economic burden, lack of hygiene, and poor lighting, in addition to improper equipments in performing wound debridement (Friman et al. 2011).

2.6.1 Wound Debridement

The removal of devitalized tissue such as necrotic tissue, slough, bioburden, biofilm, and apoptotic cells is known as debridement. Devitalized tissue, in general, and necrotic tissue, in particular, serve as the source of nutrients for bacteria. The theory behind wound debridement is that it promotes re-epithelialization. It has been used for over a decade. Several types of the debridement's can achieve removal of devitalized tissue. These include mechanical debridement, surgical debridement, biological debridement, enzymatic debridement's, and autolytic debridement. (Manna et al. 2022.)

2.6.2 Types of wound debridement

The mechanical cleansing of the wound is a critical component. This is frequently overlooked, which slows wound healing and raises the risk of infection. The goal is to remove all dead tissue from the incision. Cleaning the wound can be done in a variety of methods, with the approach chosen based on the features of the wound, the patient's general status, and the resources available at the treatment facility. When treating a chronic wound, mechanical cleaning should be done with each bandage change to keep the wound's base clean, red, and granulating, allowing it to recover. (EDIS 2022; Surgery Encyclopedia 2022: Wikipedia 2022.)

Surgical removal is normally done in a hospital operating room. The so-called "surgical cleaning system" can be used to clean surgical instruments. It is required, especially when there is a substantial amount of dead necrotic tissue and infection in the wound, in home care following excellent anesthesia. Surgical cleaning is done to the healthy tissue's edge with a knife and scissors. (EDIS 2022; Wikipedia 2022; Wound Source 2015.)

Furthermore, autolytic purification is the body's natural defense system, which permits enzymes and macrophages to break down dead tissue. Autolysis can be aided by using modern wound dressings that are properly selected and by maintaining a moist healing environment at the wound's base. Enzymatic cleansing involves injecting a proteolytic salve containing an enzyme into the area to break down dead tissue. The larvae of the fly grown under sterile circumstances produce a proteolytic enzyme to the wound, which effectively breaks down dead tissue in biological cleansing. Healthy tissue is not harmed by the larvae. (EDIS 2022.)

Purpose, Aim and Research Question

The purpose of this study is to describe home care nurses’ experiences on the care of chronic wounds. The aim is to identify the home care nurses` experiences of chronic wound care regarding assessment, technique, and documentation.

Study question: “What kind of experiences do home care nurses have about chronic wound care?”

3 Methodology

The method adopted for this study is literature review as this goes in line with the author’s intention to make use of past & current relevant studies/research conducted at various countries to evaluate, deduce, and present the state of existing knowledge, in order to have an international perspective on the thesis topic. In respect to the methodology, there are 5 helpful steps the author adopted from (McCombes 2019) to help achieve the study aim and they include relevant literature search, evaluate and select sources, identify the gap in knowledge, synthesize the result to present own literature review (findings).

3.1 Descriptive Literature Review

Literature reviews are essential for determining what has been written on a subject or topic; determining the extent to which a specific research area reveals any interpretable trends or patterns; and determining the extent to which a specific research area reveals any interpretable trends or patterns gathering empirical facts relevant to a specific research question to promote evidence-based practice; developing new frameworks and theories; and highlighting subjects or concerns that require additional research (Paré, Trudel, Jaana, & Kitsiou, 2015; Phantran 2020).

According to Templier and Paré (2015), doing a review article involves six generic steps: establishing the research question(s) and objective(s), exploring the existing literature, screening for inclusion, assessing the quality of primary studies, extracting data, and analyzing data. As a result, because their model is superior, the literature review model created by Templier and Paré will be used in this study.

3.2 Data search and selection

Data collection is a systematic approach or process of collecting, gathering, or collating of information, observation, or measurements either qualitative or quantitative or both and use same as evidence in answering the research question (Bhandari, 2020). The database used for data collection in this study, are PubMed, CINAHL & ProQuest and all access to these databases

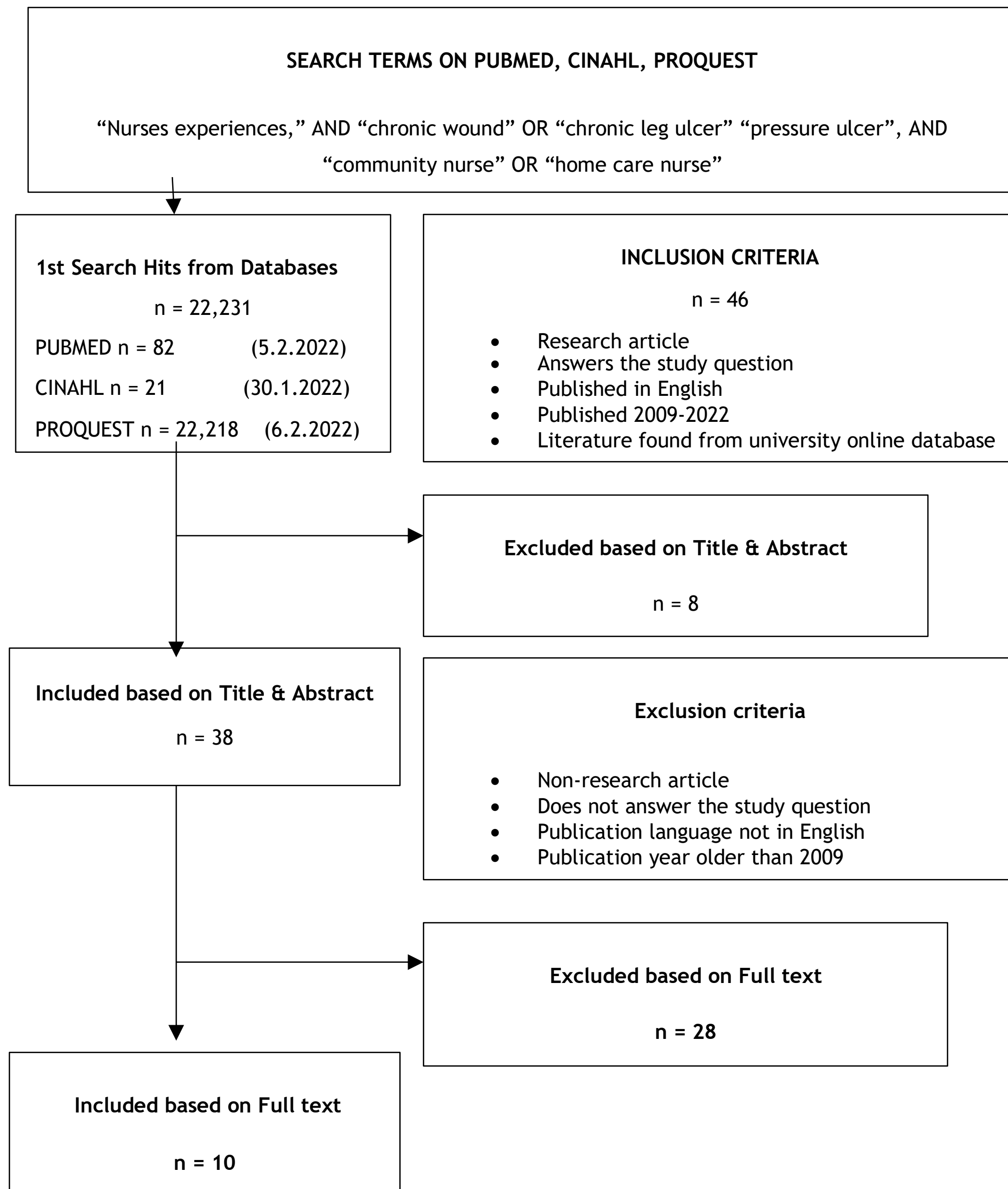
were provided free by Laurea University of Applied Sciences, which allowed the author to have access to full-text articles or journals.

To that end certain specific inclusion & exclusion criteria were formulated to select appropriate studies that are suitable for literature reviews. These articles, journals and materials were majorly those that were available to be downloaded for free, written in English and had keywords that are same or closely matched with the title of this study. Other Inclusion and Exclusion criteria can be found in Table 2.

A comprehensive searching approach was applied for searching literatures which includes five screening phases to choose relevant literatures for the topic: Phase 1: Search terms, Phase 2: Inclusion and exclusion criteria, Phase 3: Title, Phase 4: Abstract, Phase 5: Full text. (Paré & Templier, 2015)

The research question was broken down into three main concepts: “nurses experiences,” “chronic wound”, “home care nurses” to assist in the literature search. The Boolean operators AND OR were used in between each term during the search. CINAHL (EBSCO), Pub-Med, and ProQuest, are the online databases that were used in the literature search. These databases were selected based on scholarly and peer-reviewed health-related journals and articles that are relevant to this study topic and accessed through the University`s online database, Laurea Finna. Below is a modified version of PRISMA flow diagram (Figure 2) that illustrates systemic literature search process in each phase. PRISMA stands for Preferred Reporting Items for Systematic reviews and Meta-Analyses, it was designed to help systematic reviewers transparently report why the review was done, what the authors did, and what they found (Moher et al. 2009).

Figure 2. Modified version of PRISMA flow diagram (Moher et al. 2009)



In phase 1, the first search was performed without including any criteria and a total of 22, 231 articles were retrieved from all the 3 selected database search (Figure 2). In phase 2, the inclusion-exclusion criteria (Table 2) were applied to filter out any unwanted articles that are irrelevant to this work, and a total of 46 articles were retrieved. In phase 3, the author screened each title of articles and selected 21 articles for further assessment. In phase 4 with a total of 17 articles selected for eligibility after reading the abstract, and lastly, in phase 5 with 10 articles included for reviewing the full text. In figure 2 above (N) is represented as Number of articles.

3.3 Screening

The inclusion-exclusion criteria are crucial for filtering unnecessary research papers that are not relevant to this study. The following criteria was applied.

Table 1. Inclusion and Exclusion criteria

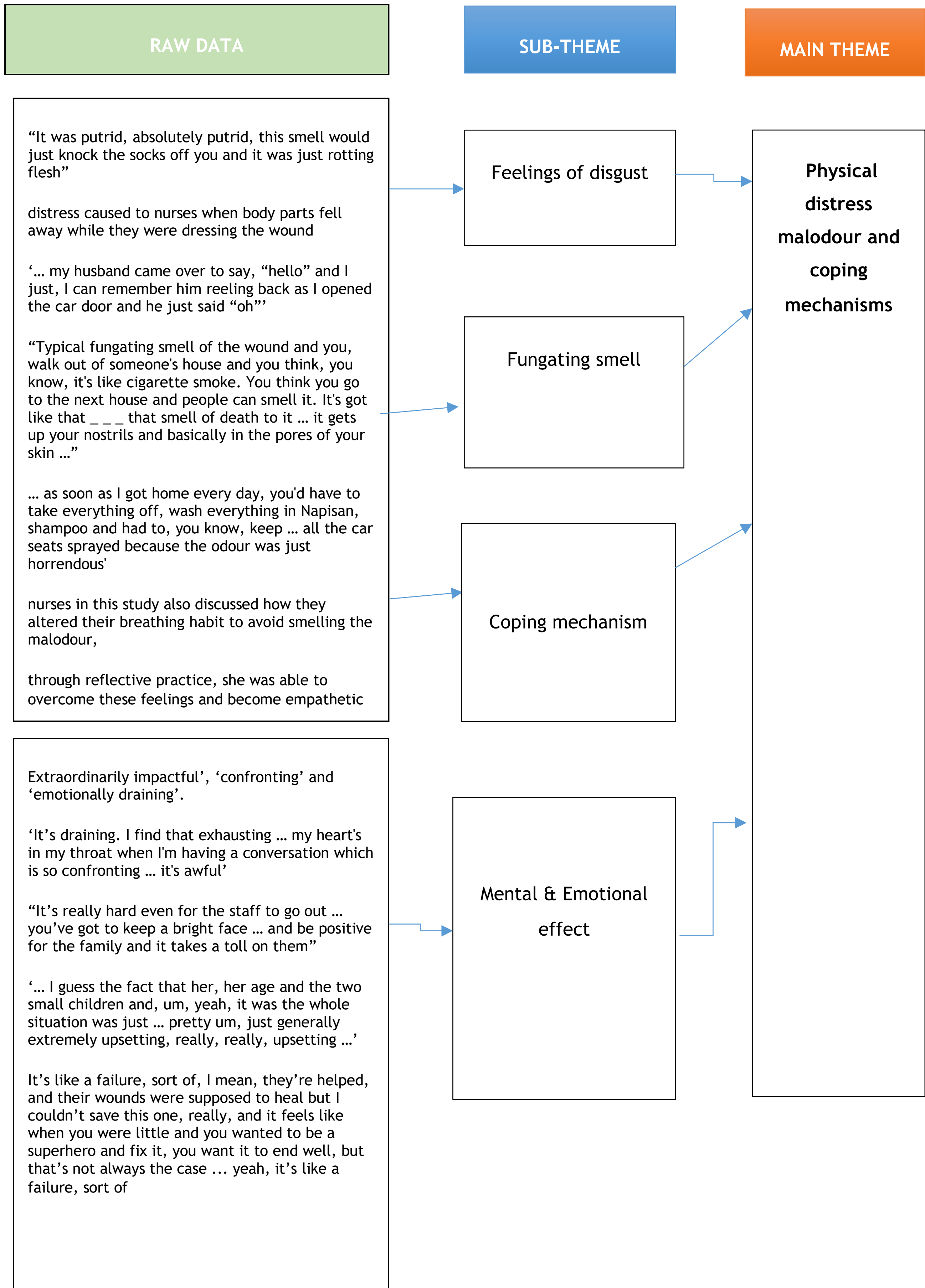
INCLUSIONS	EXCLUSIONS
Chronic wound, Leg ulcer, pressure ulcer	Conditions that do not include chronic wounds and treatments
Home Care Nurses, District Nurses, Community Nurses (several terms of nurses were used and author chose to include the nurse articles related to home care)	Non-nursing student, non-nursing professional, clinicians, family member, patient, other healthcare professional
Home Care	Hospital-based care treatments, ICU,
Nurses' experiences	Experiences of nurses not related to chronic wound, experiences or views or challenges of patients/family on chronic wound care
Answers the study question	Does not answer the study question
Qualitative, quantitative, mixed methodology, systematic reviews, meta-analysis, journal articles, research articles	News editorials, opinion pieces, commentaries, reviews with unsystematic methods
Dates: 2009 to present	Dates: older than 2009
Literature found from university online database	Blogs or random websites
Written in English	Non-English text

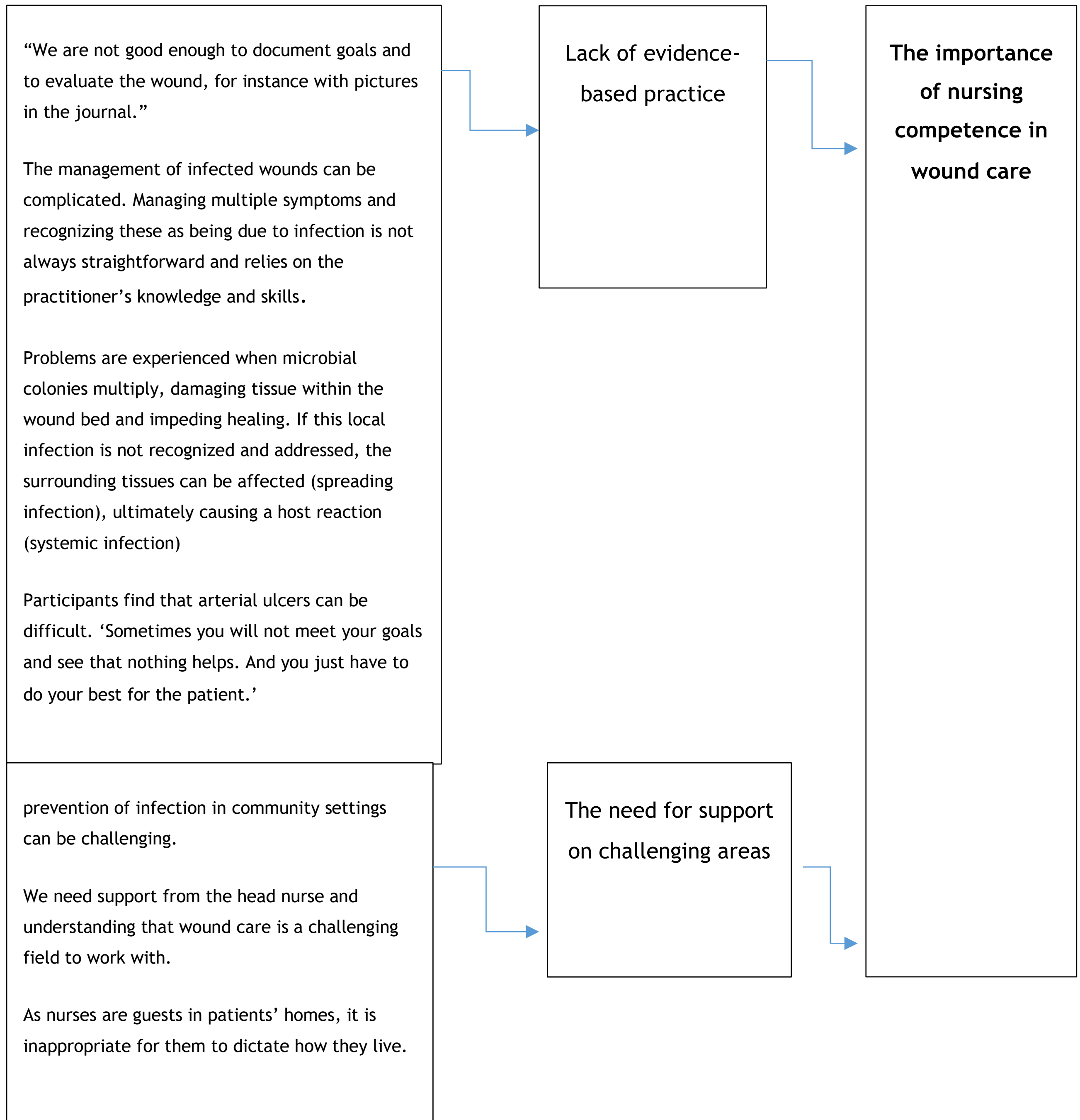
3.4 Data Analysis

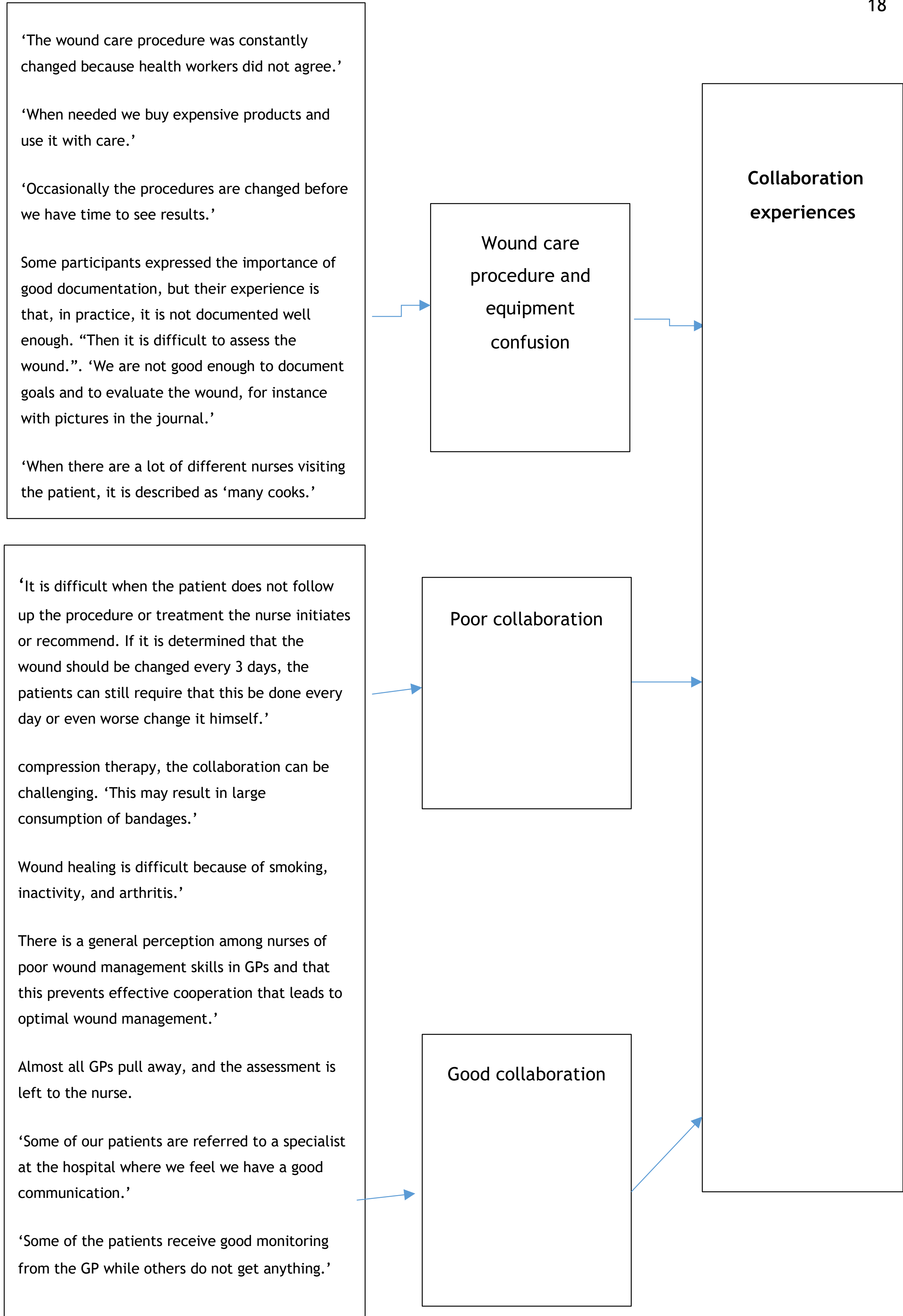
According to Elo and Kyngäs (2008) and cited by Troy (2021) and Bhasin (2020), content analysis is one of the research techniques used in different fields to analyze literatures and verbal materials, which allows researchers to analyze qualitative and quantitative data and interpreting their meanings. The authors also defined it as one of the most common research methods used in nursing research (Columbia University 2019).

The 10 articles collected in this study were analyzed using the method of inductive content analysis. Elo & Kyngäs (2008) and Troy (2021) cite qualitative content analysis as developing the theory and identifying themes by studying existing literature. First, we classify the raw data into subcategories and main categories (Figure 2). This is called open coding. A set of cords helps reduce the amount of material to a more manageable amount. Through open coding, the author reviewed the article, read the raw data critically, and categorized the raw data into topics related to research questions. These themes are called subcategories and are further subdivided into main categories based on conceptual similarities (Elo & Kyngäs 2008; Troy2021; Fullstory 2021).

Figure 3: Inductive Content Analysis Process Illustration




"We are not good enough to document goals and to evaluate the wound, for instance with pictures in the journal."
The management of infected wounds can be complicated. Managing multiple symptoms and recognizing these as being due to infection is not always straightforward and relies on the practitioner's knowledge and skills.
Problems are experienced when microbial colonies multiply, damaging tissue within the wound bed and impeding healing. If this local infection is not recognized and addressed, the surrounding tissues can be affected (spreading infection), ultimately causing a host reaction (systemic infection)
Participants find that arterial ulcers can be difficult. 'Sometimes you will not meet your goals and see that nothing helps. And you just have to do your best for the patient.'
Lack of evidence-based practice
The importance of nursing competence in wound care
prevention of infection in community settings can be challenging.
We need support from the head nurse and understanding that wound care is a challenging field to work with.
As nurses are guests in patients' homes, it is inappropriate for them to dictate how they live.
The need for support on challenging areas


'The wound care procedure was constantly changed because health workers did not agree.'
'When needed we buy expensive products and use it with care.'
'Occasionally the procedures are changed before we have time to see results.'
Some participants expressed the importance of good documentation, but their experience is that, in practice, it is not documented well enough. "Then it is difficult to assess the wound.". 'We are not good enough to document goals and to evaluate the wound, for instance with pictures in the journal.'
'When there are a lot of different nurses visiting the patient, it is described as 'many cooks.'
Wound care procedure and equipment confusion
Collaboration experiences
'It is difficult when the patient does not follow up the procedure or treatment the nurse initiates or recommend. If it is determined that the wound should be changed every 3 days, the patients can still require that this be done every day or even worse change it himself.'
compression therapy, the collaboration can be challenging. 'This may result in large consumption of bandages.'
Wound healing is difficult because of smoking, inactivity, and arthritis.'
There is a general perception among nurses of poor wound management skills in GPs and that this prevents effective cooperation that leads to optimal wound management.'
Almost all GPs pull away, and the assessment is left to the nurse.
'Some of our patients are referred to a specialist at the hospital where we feel we have a good communication.'
'Some of the patients receive good monitoring from the GP while others do not get anything.'
Poor collaboration
Good collaboration

4 Findings

During the data analysis process, the ten selected articles were thoroughly analyzed. A summary of ten selected articles can be found in appendix 1. The author ensured the results of the findings have answered the research question, as well as the purpose of this study. A total of 3 main themes were formulated. Firstly, is physical distress in malodour and coping mechanism with 4 sub-themes of feelings of disgust, fungating smell and coping mechanism, mental and emotional effect. Secondly, the importance of nursing competence in wound care, with two sub-themes of lack of evidence-based practice, and the need for support on challenging areas. Thirdly, collaboration experiences with a sub-theme of wound care procedure and equipment confusion, poor and good collaborations.

4.1 The experiences of home care nurses on chronic wound care.

4.1.1 Physical distress in malodour and coping mechanisms

5.1.1.1 Feelings of disgust and fungating smell

According to findings of Taylor (2011) and Alexander (2010), malignant wounds occur infrequently but are typically described as devastating and overwhelming. Nursing patients with malignant fungating wounds has been identified as a challenge for nurses, and these wounds are seen as the most distressing and complex cases that home care nurses have to manage. Alexander (2010) described the distress caused to nurses when body parts fell away while they were dressing the wound. In existing literature, nurses typically discussed the effect of malodour upon their patients, rather than themselves. At times, nurses in the study conducted by Alexander (2010) adopted a similar approach as they described the malodour associated with malignant wounds as being the ‘biggest thing’. They recognized it as one of the ‘main problems' of malignant wounds and typically described it in terms of ‘rotting flesh.

5.1.1.2 Coping mechanisms

According to the study of Alexander (2010), nurses discussed altering their breathing patterns in an attempt to avoid breathing in the noxious malodour and cognized that it clung to their clothing and bodies, reminding some nurses of the patient long after the nurse had finished her shift. Nurses discussed the methods they used to avoid others being able to detect the malodour after they had visited patients with malignant wounds. They described taking a change of uniform or leaving such patients to the end of their shift. (Alexander 2010). Even so, there were times when others were affected by the lingering malodour. Nurses also discussed the methods

they used to reduce the impact of the malodour upon themselves. They described scrubbing themselves, their clothing, and their vehicles in an attempt to remove the malodour and also discussed altering their breathing patterns in an attempt to avoid breathing in the noxious malodour and cognized that it clung to their clothing and bodies, reminding some nurses of the patient long after the nurse had finished her shift. (Alexander 2010.) In the study of Hawthorn (2010) she highlighted uncomfortable feelings and emotions surrounding her nursing practice; however, she also described that, through reflective practice, she was able to overcome these feelings and become empathetic. Some nurses, in the study of Varga and Holloway (2014) were aware of the challenges patients faced in coping with chronic wounds, however, what was also apparent was that taking the time to involve patients in their care facilitated coping strategies and improved their experience of care. Thus, prioritizing time to involve patients was also a coping strategy for the home care nurses in this current study, as time spent caring was rewarding in this mutually beneficial relationship.

5.1.1.3 Mental and emotional effect

In the study conducted by Alexander (2010) the home care nurses cited caring for patients with malignant wounds as being amongst the most traumatic cases they had managed. The emotional impact was often the greatest, particularly when the patients' social circumstances added to the poignancy. In some instances, body parts fell away while the nurses were dressing the malignant wound. Not surprisingly, they found these instances to be particularly traumatic. Other aspects they found stressful included the need to hold difficult conversations with patients, particularly those related to the patient's terminality or the possibility of an arterial hemorrhage. Nurses described experiencing hopelessness, helplessness, frustration, inadequacy, sadness, guilt and even anger because they were not able to care for their patients with malignant wounds in what they considered to be a suitable manner. The ability of malignant wounds to impact upon nurses was shown by a very experienced nurse who was so affected by the malignant wound of her patient that she perceived the development of physical symptoms of her own. She was so concerned about the possibility of developing a malignant wound herself that she frequently consulted her doctor to seek reassurance that she was not about to develop a wound. (Alexander 2010.)

4.1.2 The importance of nursing competence in wound care.

5.1.3.1 Lack of evidence-based practice

This theme is a description of the nurse’s need for skills and what kind of skills they deem as important (Aune & Struksness 2019; Rutter 2018).

Rutter (2018) stated, a large proportion of community wound care consists of managing chronic wounds. Given the increasingly complex patient comorbidities, early identification and treatment of wound infection can impact greatly not only on wound healing but also on the patient physically, psychologically and socially. Identifying wound infection can be challenging for nurses, particularly in the chronic wound where infection may not always present itself as it does in acute wounds (Rutter 2018). The management of infected wounds can be complicated as well as managing multiple symptoms and recognizing these as being due to infection is not always straightforward and relies on the nurses’ knowledge and skills (Rutter 2018). An understanding of more commonly used antimicrobial treatments and when to employ these is paramount in enabling the nurse to provide care that is effective, evidence based and cost efficient. (Rutter 2018.)

In the study conducted by Aune and Struksness (2019), they stated that it is a general perception that there is little expertise in wound management in health services. Some of the nurses’ colleagues in their study are perceived as challenging when they lack knowledge or have little interest in wound care. Consequently, a significant amount of time is spent on supervising colleagues. However, other nurses describe that it is accepted that nurses can specialize in fields they have most interest in and lean on colleagues when it comes to fields where they have less expertise like wound care. There is still a need for basic knowledge and training, and the nurses express a desire to learn how to assess ulcers and identify the cause and others have learned a lot during training but there is a difference when they come into practice. (Aune & Struksness 2019.)

Moreover, lack of practical experience is described as an inhibiting factor. A holistic approach to the patient is described as important. Thorough assessment of the patient is described as a promoting factor to successful wound healing. Pain relief before a change in bandages and a focus on odour and leakage from them is described as important wound management measures. Sometimes nurses fail to follow up on the patient’s needs in the patient’s home. (Aune & Struksness 2019.)

5.1.3.2 The need for support on challenging areas

The International Wound Infection Institute (2016) defines wound infection as ‘the invasion of a wound by proliferating microorganisms to a level that invokes a local and/or systemic response in the host’ (Wound Source 2018). The skin when its integrity is uncompromised offers a barrier to infection. However, when it is broken, it becomes at risk of incursion by

microorganisms such as bacteria, fungi, and yeasts (Young, 2012). Problems are experienced when microbial colonies multiply, damaging tissue within the wound bed and impeding healing. If this local infection is not recognized and addressed, the surrounding tissues can be affected (spreading infection), causing a host reaction (systemic infection). (Rutter 2018; RCH 2019; Advanced Medical Solutions 2022.)

In primary care, wound swabbing is the most widely recognized vehicle for collecting samples of microorganisms on the wound bed (Phlebolymphology 2022). They are often used to identify which antibiotics the microbes are sensitive to, but Rutter (2018) was critical about the reliability of the swab test result and suggested using additional steps. Because much of the literature suggests that swabbing only informs us of microorganisms present on the wound surface. It is often the pathogens deeply seated within the tissue of the wound bed and not collected by swabbing that are more likely to be the true cause of the underlying infection. (Young 2012; Phlebolymphology 2022; WUWHS 2008; RCH 2019). For this reason, wound cultures should be considered in combination with noting the clinical signs and symptoms exhibited in the chronic wound and patient (RCH 2019; WUWHS, 2008; Wounds UK, 2011; Advanced Medical Solutions 2022), and consideration should be given as to whether a swab is required at all if clinical presentation is enough to confirm wound infection (Young 2012; Advanced Medical Solutions 2022; RCH 2019). Clinical signs and symptoms of chronic wounds often behave differently such as discoloration of tissue in the wound bed, friable or bleeding granulation tissue, pocketing in the wound bed, bridging in the wound bed (Wounds UK 2013; Advanced Medical Solutions 2022; Phlebolymphology 2022; RCH 2019).

Prevention of infection in community settings can be challenging. It is imperative that home care nurses support and educate patients and their caregivers in observing good infection prevention practice. (Stephen-Haynes 2014; Advanced Medical Solutions 2022.) As nurses are guests in patients' homes, it is inappropriate for them to dictate how they live, and should assessment show a potential hazard to the patient or community staff, then these can be escalated via the appropriate channels (Rutter 2019; Advanced Medical Solutions 2022). Offering education and advice or making requests to reduce the risk of cross infection contamination should, however, be considered a part of nurse's role (Phlebolymphology 2022). Examples of this may include giving advice regarding the laundering of exudate-soaked footwear, consulting with patients in their personal space (within the home care setting), providing liners for leg-washing bowls or creating a 'clean' environment in which to carry out leg ulcer care. (Rutter 2019.)

4.1.3 Collaboration experiences

5.1.4.1 Wound care procedure and equipment confusion

This theme describes access to necessary wound treatment products, the implementation of best practice for procedures, continuity in patient monitoring and continuing education in the workplace (Aune and Struksness 2019). Deciding on what topical dressing to apply to a wound bed is another area of much debate and discussion in the nursing literature, with little research to support practice. The lack of evidence-based practice (EBP) leads to wide variation in practice between individual nurses and to inconsistencies in wound dressing over the course of treatment (Annesley 2019).

Access to necessary products is described as varying and random. In some municipalities in Norway, where Aune and Struksness (2019) conducted their study, nurses buy only the cheapest wound treatment products. It is a general conception that cheap products are less effective, especially for exuding wounds, because the cheap bandages do not handle a sufficient amount of exudate. The opportunity to acquire what is needed in terms of adequate equipment, such as bandages is described as a promoting factor to the quality of wound care. Nurses have varying experiences with the follow-up of wound procedures and outline factors that impede good treatment and management routines. (Gardner 2022.) Sometimes there are no procedures at all, or procedures are not followed. Updated procedures are described as a promoting factor to wound healing. (Aune & Struksness 2019; Weller et al. 2019.)

Selecting an appropriate wound-dressing product is an important strategy for reducing pain, malodour and tissue trauma in patients who have a fungating malignant wound. Confusion about what dressing to put on and when they should be applied is partly a result of the wide choices of dressings available. More information is needed to help nurses make the right choices in the management of their patients through guidelines, continuing professional education, as well as expert practitioners who specialize in wound treatment. Strategies need to be explored to help understand the diverse range of wound problems including physical and psychological components. (Probst et al. 2009; Gardner 2022.)

In addition, some participants expressed the importance of good documentation when there are often several nurses. A nurse describes how technology, such as a tablet, can facilitate documentation. Good documentation promotes cooperation according to nurses, but their experience is that, in practice, it is not documented well enough which makes it difficult to assess the wound. Hence, time is important to the home care nurses, for instance, time with the patient and time for discussions with colleagues. They also want the opportunity to accompany the patient to the outpatient clinic or the General Practitioner when it was considered necessary. (Aune & Struksness 2019; Gardner 2022.)

More courses or training in wound care is demanded by the nurses in the study of Aune and Struksness (2019) because they seldom get the opportunity to participate, and this is perceived

as an obstacle to providing qualified nursing. When it is possible to attend a course, only a few nurses are able to participate. (Gardner 2022).

5.1.4.2 Poor collaboration and good collaboration

According to findings, the nurses describe that most patients are satisfied, and that there are good inter-personal relationships between the patients and the nurses. The home care nurses in this study, stated that they do not always have control over the entire process of wound treatment, particularly in connection with the compression therapy, wherein, the collaboration can be very challenging. (Aune & Struksnes 2019; Eyasu et al.2016.) Home care nurses expressed that it is quite hard to stay motivated especially when they feel that the patient will not follow the appropriate or recommended treatment of the wound. The patient who does not have insight into their own situation, for example, due to their diseases e.g., Dementia, Alzheimer's which therefore constitutes an inhibiting factor for optimal healthcare. When it is perceived that the patient or their relative(s) do not trust that the treatment offered is the best, a relationship where the nurse includes the patient in the treatment decision-making process is important. Home care nurses want the patient to be able to take care of themselves and live the most optimal life they can and have the best possible life. (Aune & Struksnes 2019; Kieft et al. 2014; Lai et al. 2019.)

Chronic wounds heal better when there is a resource person in the department who follows up the wounds, according to the home care nurses. They added, there are varying experiences of cooperation with the General Practitioner (GP) and the hospital. Often the GP leaves the home care nurse in charge of the assessment and monitoring of the wound management. There is a general perception among nurses of poor wound management skills in GPs and that this prevents effective cooperation that leads to optimal wound management. Nurses also observed that the GP's lack of knowledge has led to the wrong choice of bandage and choice of treatment. One of the nurses described that not even their hospital (municipality in Norway) has sufficient knowledge. However, good experiences in cooperating with hospital units specializing in wound management, such as vascular surgery outpatient or diabetes outpatient clinic, is described. A satisfactory working relationship with the GP and hospital is promoted by good communication and when the patient is given a diagnosis and an adequate wound care plan. (Aune & Struksnes 2019; Kieft et al. 2014; Lai et al. 2019.)

According to Romagnoli et al. (2013), 41.2% of employees in home care often do not get the necessary information about wound treatment from the hospital. A possible explanation may be that these departments have little focus on wound care, and therefore their knowledge is not updated (Kieft et al. 2014). According to Olsen (2013), it is a barrier to good cooperation that the nurses do not have confidence in the information they receive (Kieft et al. 2014). A

few nurses in the collected studies state that they cooperate well with the General Practitioner (GP). However, most of the nurses in the studies find it difficult to cooperate with the General Practitioner (GP). (Lai et al. 2019.) This is due to a lack of knowledge and interest in wound management according to the nurses' experience. The home care nurses in the study of Aune and Struksnes (2019) believe the GP is reluctant to make a diagnosis, although it is the GP's responsibility. They have also had experienced of the GP stating that the nurse 'can do it better'. According to Frimann et al. (2010), in around 80% of cases, home care nurses stated there was no cooperation with the GP in relation to diagnosis, choice of dressing and monitoring of the wound. This theme highlighted how home care nurses work with patients and their families, physicians, specialists, and resource people in their local community. (Kieft et al. 2014; Lai et al. 2019.)

5 Discussion

The purpose of this study is to describe home care nurses' experiences on the care of chronic wounds. The findings of this review were able to fulfill the gap in studies by describing the home care nurses experiences in chronic wound care and it highlighted 3 main themes: physical distress in malodour and coping mechanisms; the importance of nursing competence in wound care; and collaboration experiences.

The first theme revealed that home care nurses have experienced physical distress in malodour, however, they were able to develop coping mechanisms as an attempt to overcome it (Alexander 2010; Taylor 2011; Aune & Struksness 2019; Varga & Holloway 2016; Ousey & Roberts 2017, Eskilsson 2010). In earlier studies, Wilkes et al., (2003) and Piggin and Jones (2007), found that malodour has also been the most distressing symptom associated with malignant fungating wounds that correlated with this study`s finding, however, the author of this study is unsuccessful in finding any coping mechanisms of nurses in the earlier studies. Nursing patients with malignant fungating wounds has been identified as a challenge for nurses, and these wounds are seen as the most distressing and complex cases that health professionals have to manage. Home care nurses typically discussed the effect of malodour upon their patients, rather than themselves. Although malodour is only one symptom of the malignant fungating wound, it can have an overwhelming influence effect on quality of life and cause social isolation (Alexander 2010). Coping defenses developed by some of the nurses was the only way for them to manage this experience in order to continue treating this type of wounds. Ousey & Roberts (2016) stated, home care nurses can become distressed by wound odours, yet there is little support available to guide nurses how to manage these feelings.

As a result, nursing students should begin preparing while still in school. To prepare for contacts with malodourous wounds in the real world, they should conduct extensive research on physical

malodour discomfort. In order for theories about physical suffering produced by malodourous wounds to be established in clinical practice, psychologists must be involved in the training of healthcare personnel such as nurses.

Home care nurses also described experiencing hopelessness, helplessness, frustration, inadequacy, sadness, guilt and even anger because they were not able to care for their patients with malignant wounds in what they considered to be a suitable manner. Nurses in the Alexander (2010) study cited caring for patients with malignant wounds as being amongst the most complex and traumatic cases they had managed. This aligns with the nurses' experiences in the earlier study by Palsson et al. (1995), who studied district nurses' experiences. If nurses are to provide care, they need greater knowledge of psychological issues and how they might be addressed. Alexander (2010) stated, the intensity of the impact of malignant wounds was reflected in nurses' ability to vividly remember details of patients with malignant wounds, even though the patient may have died many years previously.

Thus, to be effective in addressing psychosocial concerns with their patients, health professionals like home care nurses must be helped in coping with their own psychological issues.

The second theme is the importance of nursing competence in wound care as taken from the studies of Weller et al. (2019), Rutter (2018). Identifying wound infection can be challenging for nurses, particularly in chronic wounds where infection may not always present itself as it does in acute wounds. Studies show that nurses lack research-based knowledge on wound care,

necessary to provide adequate treatment as confirmed by previous studies of Smith-Strøm (2008) and Barret et al, (2009). Support for challenging areas in wound care from the head nurse and organization is needed such as sending nurses to more wound care seminars and trainings. Nurses must update their competences by acquiring research-based knowledge, on top of the knowledge they gain from colleagues. The importance of always using evidence-based practices must be highlighted. In addition, nurses need to learn the value of a holistic approach to the patient for optimal wound healing. (Eskilsson and Carlsson 2010.) Sensitivity to how the patient endures pain and awareness of wound management as an ongoing process is emphasized. It is also considered important to assess the level of knowledge the patient has of his/her own condition and treatment goals. (Aune & Struksness 2019.)

The fourth theme showed that home care nurses experienced inconsistency in wound care procedures and organizational shortcomings. The lack of support and facilitation by the head nurse to access training or to use evidence-based practice seems to be one reason why nurses do not apply research in nursing practice. Sometimes there are no procedures at all, or procedures are not followed. Updated procedures are described as a promoting factor to wound healing. (Aune & Struksness 2019.)

Several nurses are often involved in the wound care of a single patient, proper documentation is important to maintain efficient, consistent treatment. Turner et al. (1994) had similar findings. Nurses uses verbal instead of written reports, and at times it was the patients themselves who reported treatment changes, such as bandage type, from one nurse to another. Lindholm et al. (1999) stated that inconsistent wound care may lead to suboptimal healing, pain, and impaired quality of life as confirmed by the study of Aune & Struksness (2019). Hence, nurses need adequate time to create documentation and sufficient time to relay or discuss wound care with a colleague. It should be a statutory requirement for nurses to keep an updated patient record. It should be both a personal and a management responsibility that all staff members provide sufficient documentation.

Moreover, wound care in the home care was regarded as challenging due to the lack of equipment, and poor lighting, ergonomics, and hygiene. The results of the study of Friman and Klang (2010) identified the aspirations of nurses to provide expert wound care while working independently. However, these aspirations were aggravated by organizational shortcomings, such as a lack of authority and the resources required to conduct their nursing actions optimally. (Friman & Klang 2010). Thus, that there is a need for the supportive facilitation of the nurse manager to access training to be able to use evidence-based practice. More time with the patient and more courses or training in wound care (Aune & Struksness 2019), along with access to treatment rooms, quality wound care supplies, and updated guidelines in wound care are perceived as good resolutions to providing qualified home care nursing.

The last theme to discuss here is nurses' collaboration experiences. Collaboration with patients and their families is often good. Still, nurses face challenges when the patient does not follow through with recommendations (Van Hecke et al. 2009) and the General Practitioner (GP) adds up to the challenge.

When looking into recent articles that covered collaboration experiences of nurses, their findings agree with older works such as Lindahl et al. (2008) and Smith-Power and Thornes (2008) which showed that when the GP was asked to prescribe treatment, the nurse was told to treat the wound 'as usual'. The consequence was that over half of the nurses were changing wound care procedures without consulting a doctor. Promoting factors for a good relationship with the GP are effective communication and openness to discussion. According to Frimann et al. (2013), nurses express a desire for clearer responsibilities in wound management and that it is the GP's responsibility to diagnose wounds. Thus, GPs should refer to a specialist when their expertise is not sufficient. Home care nurses with special competence may then hold a significant role in assisting the physician in performing a thorough assessment of the patient, as well as suggesting relevant evidence-based treatment. `

One of the limitations of this study was it only collected articles written in English, thus the result of data analysis should not generalize home care nurses' experiences in chronic wound care. The author recognized that the interpretation of data might be subjected to some bias based on the limitations of the author's lived experience for this study has a single author and might fail to notice bias or prejudice in her own way of thinking, which could result in incomplete discussion and result analysis. The author was aware that her professional background could potentially contribute to bias in the final analysis as she is working at a community-based home care.

In conclusion, nursing patients with chronic wounds has been found to be as a distressing experience for nurses physically due to the malodour of malignant fungating wounds, mentally, because they were unable to provide adequate care for their patients suffering, and professionally, due to the lack of evidence-based knowledge in wound care, confusion in procedures and treatments, and work collaboration difficulties with patients, colleagues and GP. Coping defenses was the only way for them to manage these experiences due to the lack of organizational support and training about these challenging areas in home care nursing.

For suggested future research, it would be beneficial to review the evidence-based guidelines on chronic wound care and research-based decision making of home care nurses.

6 Ethical considerations

Responsible conduct of research and procedures for handling allegations of misconduct in Finland (Finnish National Board on Research Integrity TENK 2012; 2020; 2021), as defined by the Ministry of Education and Culture's Finnish National Board on Research Integrity, the Rectors' Conference of Finnish Universities of Applied Sciences' thesis guidelines (ARENE 2018), and the principles of professional ethics in the field should all be followed when writing a thesis such as avoiding illegal quoting. The Urkund plagiarism detection program is used to check the theses for any efforts at plagiarism. (Laurea AMK 2019.)

The Finnish research community has agreed on a standard research ethics guideline on Finnish National Board on Research Integrity (2021) and the treatment of suspected noncompliance, known as the RCR guideline. It is critical to be honest, cautious, and open when performing research, including thesis writing, and to appreciate the work of other researchers. The research adheres to research community-accepted criteria, such as integrity, meticulousness, and accuracy in performing research, as well as in recording, presenting, and assessing research findings. The procedures used to collect data, as well as those used for research and assessment, are scientifically sound and ethically sound. When the study findings are published,

they are shared in an open and responsible manner, which is essential to the transmission of scientific information. (Finnish National Board on Research Integrity TENK 2021.)

In addition, the author of this study respects other researchers' efforts and accomplishments by crediting their publications appropriately and giving their accomplishments the credit and weight, they deserve in carrying out own research and publicizing its findings as well as making sure there is no research misconduct in this study. The term "research misconduct" relates to deceiving the research community, as well as deceiving decision-makers. This involves providing misleading data or results to the research community, as well as disseminating fraudulent data or results via a publication, a talk delivered at a scientific or scholarly meeting, a manuscript intended for publication, study materials, or funding applications. Misconduct also encompasses misappropriating other researchers' work and misrepresenting other researchers' work as one's own. (Finnish National Board on Research Integrity TENK 2021.)

Lastly, finding in this study are the author`s own interpretation and should not be generalized.

6.1 Trustworthiness, reliability and validity

In nursing science studies, qualitative inductive content analysis is a regularly utilized method for assessing qualitative data and interpreting its meaning (Elo & Kyngäs 2008; Elo et al. 2014; Kyngäs 2020; Thorne 2000). It has a number of advantages. Because open coding is not open to interpretation, it can provide useful and rich insights into the research objectives of this study and is a trustworthy technique to examine qualitative data for detecting connections and patterns (Elo et al. 2014). However, it has drawbacks such as inaccuracy, subjectivity, limited generalizability, and labor costly. (Elo & Kyngäs 2008; Thorne 2000.)

Lincoln and Guba (1985) created a formula for judging qualitative content analysis that may be used in both inductive and deductive reasoning. In the qualifications, they included the term "trustworthiness." The goal of trustworthiness in qualitative content analysis is to support findings that are "worth paying attention to," and trustworthiness is frequently referred to as a research's credibility, dependability, transferability, and confirmability (Elo et al. 2014; Thorne 2000.) The reliability of qualitative content analysis has not been well investigated, and it suffers from a number of drawbacks due to its subjectivity. It requires some degree of researcher interpretation, and since this study is undertaken by a single researcher, there is a possibility of researcher bias (Kyngäs 2014). These factors may have an impact on the dependability of the research findings. (Elo & Kyngäs 2008; Thorne 2000; Middleton 2022.)

The author of this study collected reflective notes and read the raw data several times to reduce the influence of researcher subjectivity and bias in the research. The idea of reliability

is used to assess the quality of research (Middleton 2022). Simply put, it refers to a measurement's consistency, which is the amount to which the same results may be recreated using the same methodology when the research is repeated. In other words, if the research is highly reliable, other researchers will be able to replicate the same results using the same procedures under similar conditions. (Taherdoost, 2016; Middleton 2022).

Because this study is conducted by a single researcher, its reliability suffers from a lack of objectivity; therefore, the author has attempted to keep the reliability of this literature review as high as possible by using objective sources for which the author has no commercial or special interest; these are the PubMed, Proquest, and Cinahl databases, which are known for being trusted sources of academic journals. (2022, Middleton.) Furthermore, the author employed the same keywords and keyword combinations throughout the literature search, including "nurse experiences," "chronic wound," and "home care nurses," with Boolean operators AND OR applied in between each term. Furthermore, because it employs systematic processes, content analysis is highly reliable. In addition, in all forms of analysis, cognitive fatigue is a common threat to trustworthiness, overtime or after long hours of looking at the raw data, they may start to look the same that gives difficulty to the author to refocus or think clearly. To prevent fatigue, the author has maintained a journal to help stay focused and sufficient number of regular breaks has been enforced. (Kleinheksel et al. 2020.)

Finally, the author ensured that the findings fulfilled the purpose of this bachelor's thesis and answered the study question.

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Appendix 1: The table of articles

Author	Year	Title	Aim	Study design & Methods	Sample	Findings/Conclusion
Weller, C.D., Richards, C., Turnour, L., Patey, A.M., Russell, G. & Team, V. doi:10.1016/j.ijnurstu.2019.103503	2019	Barriers and enablers to the use of Venous Leg Ulcer Clinical Practice Guidelines in Australian Primary Care: A qualitative study using the Theoretical Domains Framework.	The aim of this study was to examine GP and practice nurse experiences related to venous leg ulcer clinical practice guidelines, with a specific focus on barriers and enablers to identify theoretical domains related to behavior change.	Qualitative design and conducted semi-structured, face-to-face and telephone interviews with primary care nurses and GPs and applied the Theoretical Domains Framework to underpin content analysis of the interview transcripts.	interviewed GPs (15) and practice nurses (20) from primary care located in metropolitan Melbourne and rural Victoria	Many participants were not aware of venous leg ulcer clinical practice guidelines. Those that were aware, stated that finding and accessing guidelines was challenging and most participants relied on other sources of information. Venous leg ulcer management was greatly influenced
Aune, E. & Struksnes, S. doi:10.12968/jowc.2019.28.3.178	2019	Home care nurses' experience of providing healthcare to patients with hard-to-heal wounds	To investigate and describe the experience of nurses working in home care, with responsibility for providing health-care to patients with hard-to-heal wounds.	A qualitative method with exploratory and descriptive design was used. Data collection was by questionnaire with semi-structured and open-ended questions. Content analysis with an inductive approach was carried out to analyze responses.	A total of 21 nurses took part in the study. Nurses from three municipalities in Norway were recruited.	Participants' statements resulted in three generic themes within one main overall heading: 'Complex challenges, professional pride and joy'. The three themes included: 'The importance of nursing competence', covering nurses' perception of their own competence and the importance of seeing and treating the patient as a whole. 'The importance of organization and frameworks' examines

						opportunities for continuing education, access to necessary equipment, good routines for wound management plans and continuity in patient monitoring. The final theme, 'The importance of cooperation' covers nurses' views on working with patients, resource staff, hospital staff and general practitioners.
Taylor, C. ***16(Sup12), S16-S22.*** **doi:10.12968/bjcn.2011.16.sup12.s16**	2011	Malignant fungating wounds: a review of the patient and nurse experience. British Journal of Community Nursing,	To identify patient and nurse experience on malignant, fungating wounds.	Literature review	Malignant fungating wounds have a devastating effect on an individual's quality of life. Malodour and exudate are seen as the biggest issues for patients. Nurses are affected by some of the symptoms these wounds produce. Nurses need more support and education when looking after these patients	

Author	Year	Title	Aim	Study design & Methods	Sample	Findings/Conclusion
Ousey, K. & Roberts, D. doi:10.12968/indn.2017.3.25	2017	Coping with feelings associated with wound malodor.	The aim of this study was to illuminate nurses' reflections on obstacles to and possibilities for providing care as desired by people with malodorous exuding ulcers.	Twelve audio-recorded transcribed interviews were analyzed using qualitative content analysis.	A convenience sample of six nurses participated in conversational interviews. All were women; one was an enrolled nurse and five were registered nurses: their age range was 29-50 years; and they had worked in nursing for 3.5-29 years. Two worked in primary care and four in specialist clinics at a university hospital in northern Sweden where patients with hard-to-heal ulcers were frequently cared for.	A qualitative study revealed nurses' reflections on caring for patients with malodorous, exudating wounds. Striving to do good for patients and to be 'good nurses' was a major concern of the nurses. Effective management of malodorous wound care often caused dilemmas when attempting to 'do good' and 'be a good nurse'

Author	Year	Title	Aim	Study design & Methods	Sample	Findings/Conclusion
Rutter, L. doi:10.12968/bjcn.2018.23.sup3.s6	2010	An intense and unforgettable experience: the lived experience of malignant wounds from the perspectives of patients, caregivers and nurses	The purpose of this study was to address the gap in knowledge by investigating the lived experience of malignant wounds from the perspectives of those living it.	Hermeneutic phenomenology methodology	Unstructured, open-ended interviews	malignant wounds as 'extraordinarily impactful', 'confronting' and 'emotionally draining'. This propensity to impact significantly upon the lives of those affected facilitated the development of an overarching theme of 'Malignant wounds – an intense and unforgettable experience'. Below the overarching theme, the sub-themes were

						grouped into themes that encompassed the essence of the experience for patients, caregivers and nurses: malodour; new mode of being-in-the-world; still room for hope and enduring memories
Eskilsson C, Carlsson G. https://doi.org/10.3402/qhw.v5i3.5415	2018	Identifying and managing wound infection in the community.		Qualitative method		It is imperative that all health professionals are educated to ensure they have an awareness of the signs and symptoms of wound infection, an understanding of antiseptic dressings available to them and know when to escalate concern. This includes nursing support staff, who may also be involved in chronic wound care under the supervision of a nurse. Nurses need to be competent in undertaking a comprehensive and holistic wound assessment to inform their practice. Timely, holistic wound assessment and care ultimately benefit the patient by reducing the physical and psychosocial impacts of wound infection and the NHS by reducing costs through

						appropriate, effective implementation of treatments and reducing the potential for hospital admission.
Friman A., Klang, B. & Ebbeskog, B. doi.org/10.1111/j.1471-6712.2010.00839.x	2010	Feeling confident in burdensome yet enriching care: Community nurses describe the care of patients with hard-to-heal wounds	this study focuses on the nurse's perspective with the aim on describing how community nurses experience the phenomenon the care of patients with hard-to-heal wounds.	Empirical study	Seven qualitative interviews with community nurses	The findings show a tension between enriching and burdensome care. In this tension, the nurses try to find energy to reach harmony in their work through reflection, acceptance, and distance.
Varga, M. & Holloway, S. doi: 10.1111/iwj.12279	2010	Wound care by district nurses at primary healthcare centres: a challenging task without authority or resources. Scand J Caring Sci 2011; 25(3):426–434.	Aim of this study was therefore to describe district nurses experiences of their nursing actions when treating patients with different kinds of wounds at primary healthcare centres and in the home care in order to increase understanding of this kind of care.	Empirical study	A qualitative, descriptive study was conducted, with interviews of eight district nurses. Data were analysed using qualitative content analysis.	Three themes and nine sub-themes were identified. The first theme included two sub-themes which revealed that in performing wound care district nurses feel responsible for administering wound care, and they feel confident in making independent assessments. The second theme included three sub-themes which revealed that district nurses endeavour to assess all aspects of their patient's situation and to maintain continuity in both their contact with the patient and the treatment.

Lumbers, **M.** DOI: 10.12968/bjcn.2019.24.Sup3.S25	2016	The lived experience of the wound care nurse in caring for patients with pressure ulcers	The aim of the study was to report the lived experience of the wound care nurse (WCN) in caring for patients with pressure ulcers (PU).	A descriptive and interpretative study on the life worlds of spatiality, temporality, relationality, and corporeality was carried out. Utilizing the hermeneutic Heideggerian phenomenology, data were collected over a 3-month period in 2012	Semi-structured interviews were used to collect the data with a pool of 30 WCN within the local urban area of Alberta	
Annesley, S. H. (2019). doi:10.12968/bjon.2019.28.5.290	2019	Current thinking on caring for patients with a wound: a practical approach. British Journal of Nursing, 28(5), 290–294.	Aim is to describe the types and causes of wounds, the six domains needed for systematic wound assessment and the principles nurses can apply to ensure evidence-based wound care			This article has highlighted some key considerations in the care and support needed for patients with wounds, both chronic and acute. Using an evidence- and practice-informed approach, it has drawn together current ideas that can inform our knowledge base. It has highlighted current research and gaps in evidence but also areas where new ideas, such as those promoting an agreed UK minimum data set on wound assessment, are being proposed. Finally, the author argues that nurse-led wound care would benefit from asking, listening to and doing what matters to patients, providing care sensitive to the

						priorities, hopes and fears of people living with a wound.

Appendix 2: The title of the second appendix