

NURSES' ROLE IN THE PREVENTION OF PRESSURE ULCERS

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<p>Pressure ulcer are one of the emerging health problems in bedridden and immobile clients. Pressure ulcers can lead to serious problems, pain and sometimes can be life threatening. Pressure ulcers are the results of a prolonged pressure on the skin above the bony prominences. Nurses play an important role in the prevention of pressure ulcer. Evidenced-based practices and client-centred care are delivered to decrease the incidence and consequences of pressure ulcers.</p> <p>The bachelor thesis aims to provide a poster illustrating the prevention of pressure ulcers. The purpose of this thesis is to design poster for home care nurses. The poster will describe the nurses' role in the prevention of pressure ulcers and provides clear ideas in implementing nursing care.</p> <p>The practice-based method will be used to conduct this thesis in cooperation with elderly care homes. The product obtained from this thesis will be used by the nurses to prevent pressure ulcers.</p>		
<p>Keywords: Nurses, pressure ulcers, evidenced-based practices, prevention</p>		

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Työn nimi Ehkäise painehaavojen syntyä Opas sairaanhoitajalle		
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<p>Painehaavat ovat vuodepotilaiden ja liikkumattomien potilaiden yleisimmistä terveysongelmista. Painehaavat voivat aiheuttaa vakavia ongelmia, kipua ja joskus olla hengenvaarallisia. Painehaavat ovat seurausta pitkäaikaisesta paineesta iholle luisten ulkonemien yläpuolella. Sairaanhoitajilla on tärkeä rooli painehaavan ehkäisyssä. Todisteisiin perustuvia käytäntöjä ja asukaslähtöistä hoitoa tarjotaan painehaavojen ilmaantuvuuden ja seurausten vähentämiseksi.</p> <p>Opinnäytetyön tavoitteena on tuottaa painehaavojen ehkäisyä kuvaava juliste. Tämän opinnäytetyön tarkoituksena on suunnitella juliste sairaanhoitajille. Juliste kuvaa sairaanhoitajien roolia painehaavojen ehkäisyssä ja antaa selkeitä ideoita hoitotyön toteuttamiseen.</p> <p>Tämä opinnäytetyö tehdään käytännönläheisellä menetelmällä yhteistyössä vanhainkodin kanssa. Tästä opinnäytetyöstä saatua tuotetta hoitajat käyttävät painehaavojen ehkäisyyn.</p>		
Asiasanat Painehaava, ehkäise, Sairaanhoitaja		

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1 Introduction

Pressure ulcers are open wounds, they are also known as decubitus ulcer, bed sore or pressure sore. Pressure wounds are formed when the body weight presses the part of the body against a firm surface such as a bed or wheelchair. There is a decrease or cut off in blood supply to skin and tissues by the pressure created with the same position for a long period of time. The most common areas that have more chances to develop pressure sore are buttocks, hip area, back, shoulder blades, tailbones, ankles, elbows, and heels. Pressure ulcer is one of the most challenging health problems in elderly people, spinal injuries in bed ridden clients. Immobility is the vital factor for forming pressure ulcers. Some old-aged people are more prone to ulcers. It decreases the quality of life and makes their condition worsen. It affects the social, psychological, physical, and financial well-being of life. The complications of pressure ulcers are serious so, it is necessary to make appropriate interventions in time. (Ebi et al. 2019.)

Pressure ulcer is the damage to the skin or deeper tissues of the skin. It is the injury of the soft tissue leading to ischemia due to prolonged pressure in the area. It is more common in bed ridden clients, impaired mobility and person sitting long period in a chair. They are painful, affects the health of an individual, mobility, and wellbeing. It is one of the rising problems in the health sector and act as a plague to the patients. The incidence of pressure is increasing and affects several thousands of people yearly. It is one of the financial burdens in the health care system. The treatment and management of pressure ulcers cost millions of dollars. The economic condition of the family is also affected as its treatment cost is expensive. Pressure ulcers are preventable if the correct measures are implemented in time. Several factors are responsible for preventing pressure ulcers. Nurses play a vital role in the prevention of pressure ulcers. (National institute for health and care excellence 2014, 1.)

Pressure ulcer is a serious problem in health care settings all over the world. About 1.5% - 4% of the health care budget is used in treating the pressure ulcer. The treatment of the pressure ulcer is more expensive than the cost of prevention. The prevalence of pressure ulcers all over the world varies between 6% to 18% in acute care settings. A systematic review in European countries illustrates that pressure ulcer varies between 4.6% to 27.2% and in African countries varies from 3.4% to 18.6% in acute care settings. Through the studies done in different countries the prevalence rate of pressure ulcer has been found. In the same way in acute care settings, the prevalence rate of pressure ulcer in United States and Canada is 9.2%, 8.7% in Australia ,17% in Italy, and 5.76% in Portugal. From earlier studies it is estimated that the prevalence of pressure ulcer in Finland varies from 4.6% to 12.9% in acute care settings. Elderly people and immobile people have a higher chance of developing ulcers. The pressure develops when an individual is unable to move due to aging, injuries, and loss

of sensation. The ulcers can develop easily if an appropriate assessment is not done at an early stage. Elderly people and people with back injuries have a higher risk for formation of pressure ulcers. Elderly people have a decreased degree of sense of touch and clients with back injuries react to pressure ulcers resulting in fever and nausea. Especially elderly people are prone to pressure ulcers. Though many efforts and guidelines are followed for preventing pressure ulcer, it is still a prevalent issue. (Tervo-Heikkinen et al. 2021.)

The purpose or aim of the thesis

The main aim of this thesis is to design posters for the prevention of pressure ulcers in home care settings. The poster will illustrate the nurses' role in the prevention of pressure ulcers and provides clear ideas in implementing nursing care.

The purpose of this thesis is to prevent pressure ulcers in elderly people by promoting the knowledge of nurses. It will help the nurses to implement evidenced-based practices in the prevention of pressure sores. It will also help in the early identification, planning, and implementation of care plans for better prognosis and treatment of the client. It also helps to prevent pressure ulcers by applying different measures. The role of nurses in the prevention of pressure ulcers will be described via the final product obtained from this thesis. The final product will be a poster.

Description of commissioner partner

The thesis will be carried out in co-operation with Attendo Varisto. It is situated in Vantaa. The care home has a capacity for 65 residents, but the current number of residents is 60. The number of nurses and care workers is 38. It provides long-term services. It provides support and need care support for elderly people. (Attendo Varisto.)

Residents are bedridden and many of them also need support for mobilization. Pressure sores are one of the most frequent problems found in the aging population. It is mostly found in bedridden and decreased mobility clients. The final product of the thesis, i.e., poster, will be used by the nurses to prevent pressure ulcers and decrease the risk for developing sores beforehand. (Attendo Varisto.)

2 Pressure ulcers

2.1 Definition of pressure ulcers

Pressure ulcer is the emerging clinical problem in health care community. It is the damage to different layers of skin and tissues. It is also known as a localized injury in the skin due to excessive pressure. It is caused when the blood supply is decreased or cut off due to excessive pressure created by remaining in the same position for an extended period. In the pressure ulcers, soft tissues are compressed between the bony prominences and external hard surfaces, leading to soft tissue ulceration and necrosis. Pressure ulcers affect many aspects of human wellbeing. It includes physical health, general health, social, financial, and psychological aspects of life. Different aspects of wellbeing are limited by the occurrence of pressure ulcers. Many acute care patients die every year due to the complications caused by pressure ulcers. The prevalence of pressure ulcers is different from country to country. (Shibabaw et al. 2020.)

In the pressure ulcer, the area of soft tissue is damaged due to prolonged pressure leading to skin damage, ischemia, and necrosis, sometimes as pressure necrosis or ischemic ulcer. It is also termed decubitus ulcer, bed sore or pressure sore. It arises when the prolonged pressure is higher than capillary pressure with or without shear. It usually occurs in bony prominence area where the pressure is greater due to improper posture and positions. Untreated pressure ulcer leads to ischemia, necrosis and finally cell death. The treatment of pressure ulcer is too costly, and its treatment cost comes in the third most expensive treatment after the cancer and cardiovascular treatment. The complications caused by pressure ulcer impairs the physical strength and ability of victim that directly affects the quality of life. (Karon & Neha 2014.)

The pressure ulcer is abbreviated as PU. The term category, grade, or stage are used to describe the severity of pressure ulcer. The injury or damage to the skin over the bony areas is usually caused by pressure or pressure in the presence of shear. In some cases, sustained pressure is related to medical and other non-medical devices. The damage caused by pressure ulcers can be the skin intact or an open wound which is very painful. Pressure ulcers can evolve during the process of treatment, with medical devices and diagnostic equipment used in treating purposes. Pressure ulcers can decrease the quality of life and increase the mortality rate. If pressure ulcers are not identified in time, it can lead to dangerous life-threatening conditions which will lead to a delay in prognosis. It will also lead to a financial crisis for the family and organizations. It will increase the expenses for the cost of care for organizations. (Saghaleini et al. 2018.)

2.2 Causes and risk factors of pressure ulcers.

The causes of bed sores are immobility, weight loss, lack of balanced diet, moisture, improper care and position, dehydration, medical conditions like diabetes, a prolonged stay in the bed, and decreased in blood supply (Nursing home abuse centre protecting our seniors 2019). The development of bedsores is exaggerated by various factors. Multiple factors are associated with the formation of decubitus ulcers. The most important causes for the formation of pressure ulcers are loss of consciousness, decreased or loss of sensory perception, and decreased mobility. Most clients do not feel the discomfort and pain due to loss of sensory perception. (Zaidi & Sandeep 2022.)

There are external and internal factors for the formation of pressure ulcers. Both factors are responsible in a prolonged forming these ulcers. The external factors include pressure friction, shear force, and moisture whereas internal factors are fever, anaemia, malnutrition, and endothelial dysfunction. Immobilization for two hours in bedridden clients undergoing for surgery for two hours is sufficient for bed sores to form. The dysfunction of the nervous regulatory mechanism is also responsible for the formation of bed sores. In the same way, several diseases and conditions are associated in forming ulcers. They are neurological disease, cardiovascular disease, malnutrition, prolonged anaesthesia, dehydration, hypotension, surgical patients. The prolonged pressure in the tissues causes decrease in capillary flow, which leads to a decrease oxygen supply in the area. The ischaemic tissues begin to release toxic substances and the formation of ulceration and necrosis begins. (Zaidi & Sandeep 2022.)

The assessment of the skin should be done in the current episode of treatment. Initial skin assessment is an important task for detecting the risk of pressure ulcers. The assessment of the skin should be done within six hours of admission of patient to care. Skin is damaged due to the presence of moisture. It is also accepted that the skin is damaged with moisture in the presence of pressure. The risk factors for moisture associated skin damage and pressure ulcers are almost similar. The skin damaged due to the moisture have greater chances for the formation pressure ulcers. Moisture can cause swelling to the outer layer of epidermis (stratum corneum). The swelling formed by the moisture in the stratum corneum, will have more chances to form ulcers. There is the presence of pressure shear which will cause damage to skin. (Surajit & R.K 2015.)

There are several associating factors that increase the risk of pressure ulcers. There is various evidence for following the development of pressure ulcer. Determining the preliminary risk factors for bed sores helps to minimize the risk of conditions worsening. Early detection decreases the possibility of its formation. Various factors are linked with each other for the development of bedsores. So, identifying risk factors earlier will decrease the possibility of its formation and minimizes the

risk of worsening. This will also decrease the cost of care and medical expenses. The internal risk factors for developing pressure ulcer are decreased mobility due to surgery, paralysis, spinal injuries, and other medical conditions, thin skin due to advanced age, bowel and bladder incontinence, malnutrition, altered mental state, and smoking, which can decrease the blood supply and causes skin dry, poor, and unhealthy skin. The external risk factors for developing pressure ulcers are improper use of equipment, restraints, and rough clothing and bed sheets. (Grada & Phillips 2019.)

2.3 Stages of Pressure ulcers

In 2009, the first International Prevention and Treatment Guidelines by National Pressure Ulcer Advisory Panel and European Ulcer Advisory Panel was published where staging of pressure injury was revised. The National Pressure Ulcer Advisory Panel (NPUAP) hosted the conference in Chicago of United states of America in 2016. In this multidisciplinary conference the task was developed to revise definitions of pressure ulcer. The term pressure injury is used instead of ulcer and stages are mentioned as numerical. Pressure injury is classified and explained in staging. The staging of injury is done in accordance with the extent of tissue loss and damage made in the skin by the applied shear. The National Pressure Ulcer Advisory Panel staging system is widely used internationally outside United States. The revised staging system is used to aids clinical understanding of the causes, staging, and treatment of pressure ulcers. (Edsberg et al. 2016, 585.)

The assessment of the wound is necessary before using the pressure staging strategy. For the diagnosis of pressure injury, it is essential to have pressure for wound formation. The pressure applied is the causative agent in the development of pressure injury. The staging is made in relation to the extent of tissue damage and knowledge of anatomy is essential for distinguishing, the tissue involved. The pressure ulcers are divided into four stages. Stage 1 pressure ulcer is also known as mild stage of pressure sore. The upper layer of the skin is affected. The affected skin is red, or colour may change into darker and harder. The symptoms in this stage are pain, burning and itching. In stage 2 the deeper surface of the skin is damage. The skin is open, and the wound is filled with pus. The affected part appears to be swollen, red and warm. The wound is painful with pus-filled blisters. The deeper tissue of the skin is affected in stage 3. The wound appears like a crater and start to smell bad. The wound is infected, red, pus is formed with bad odour. The tissue around the sore is black and dead. In stage 4 the muscles and ligaments are affected. The wound is deep and big. The bones and tendons are involved. The affected parts turn black, and signs of infection are seen. Immediate concern and treatment are required. It requires a long time for recovery. (Der Sarkissian 2020.)

3 Prevention of Pressure Ulcers

3.1 Definition of prevention

Prevention refers to interventions made to decrease the burden of diseases and the associated risk factors. They are the actions aimed to eradicate, eliminate, or minimize the effect and consequences of disease and disability. Different types of preventive measures can be taken to delay the transmission, occurrence, and exposure to diseases. Preventive measures are essential for promotion of health. They also decrease the chance of getting infections or disease and promote the health conditions. In the same way nurses have an important character in the disease prevention and health promotion. Nursing care is always focused on prevention of diseases, promotion of health, treatment, and care of diseased and dying people. Nursing goals are always directed to planning, evaluating, and achieving public health. There are different types or levels of prevention. They are primary prevention, secondary prevention, and tertiary prevention. (Institute for Health and work 2015.)

Primary preventions

Primary prevention is the type of prevention which is designed to prevent the diseases or injury before the arrival. Nurses play an essential role in setting the primary preventive measures. Nurses have a crucial role in imparting different preventive measures. Nurses are educating the people for the adaptation of healthy food habits, healthy lifestyles, no smoking, physical exercise, and cleanliness. Primary prevention is the foremost preventive measures and actions taken before the onset of disease or adverse effects. This is done by adopting healthy behaviours, vaccinating, lifestyle changes, dietary modifications. It is preliminary measures before the occurrence of infections and diseases. The primary preventive measures include adopting nutrients diet habit, positioning, using special mattress, skin care for the bed ridden clients before the appearance of bedsores. The health care professionals are responsible for assessing the risk of bed sores. It also includes the identification of the risk before the arrival of bedsores. Primary actions can decrease the occurrence. (Hartin 2022.)

Secondary preventions

Secondary preventions refer to the preventions taken by detecting the factors associated with the diseases. Secondary preventions help to decrease the impact of the disease that has already occurred. Most of the diseases can be detected earlier and measures can be taken. Nurses play an essential role in the secondary prevention of different diseases and injuries. Especially many cancers can be detected earlier if the screening is conducted. This is another field where the nurses can make interventions for the early detection and preventive measures. Nurses are responsible for early detection of the diseases, making interventions and planning post-intervention measures. After the detection of disease or injury, secondary prevention is done to decrease the progress and vulnerability of the disease. It also decreases the chance of reoccurrence of injury or accident. For example, carrying out the mammogram for detecting breast cancer, and PSA (Prostate Specific Antigen) for detecting prostate cancer. (Kisling & Das 2022.)

Tertiary preventions

Tertiary prevention is the preventive measure that softens the effects of lifelong diseases and injuries. The main aim of tertiary prevention is to decrease the effects of the consequences of the diseases to make life easier. Nurses make interventions for the prevention of consequences occurred by different injury and degenerative diseases. There is the high prevalence of chronic diseases in the society. Chronic diseases last for many years and affect the life of the diseased person, family, relatives as well as the surrounding environment. These diseases can also lead to financial crisis. Tertiary prevention is the type of preventive measures done to support the lifelong diseases and injuries. This will help to prevent the disease from worsening. In tertiary prevention, there can be continuous medical care to alleviate symptoms associated with diseases and infections. Nurses play an essential role in making life easier for people with lifelong diseases. They can educate and motivate the disease person on self-care. Self-care education is very essential in lifelong diseases. In the same way, it will also decrease the financial burden in the future and decrease the chances of disease to worsen. (Hartin 2022.)

3.2 Primary prevention of pressure ulcers

Primary prevention are the measures that are applied before the occurrence of diseases or injuries. They are the methods that are used to prevent the diseases. In this area, nurses play an essential role. In the same way, nurses are the responsible personnel for the prevention of pressure ulcers. Pressure ulcers are preventable if the correct interventions are done in time. Quality of nursing care and patients' safety are the important components for the prevention of pressure ulcers. Nursing assessment

and interventions helps to decrease the risk of pressure ulcers. So, nurses should be always well educated and qualified. Good nursing practice plays a key role in preventing pressure ulcers. The identification of risk for pressure ulcers should be done in the initial skin assessment of patients. The initial skin assessment should be taken when patient is taken in the care, it is usually done within 6 hours of admission to treatment. It is also known as pressure ulcer on admission. In the treatment settings, nurses should always assess the chances for the formation of pressure ulcers. It is observed in the current care setting within the few episodes of care period. (Getie et al. 2017.)

The primary prevention pressure ulcer includes assessing the clinical issues. The risk assessment tools and scales are the foremost step for identifying the probability of occurrence of bedsores. Skin assessment of the clients help to identify any changes in the skin texture and changes of occurrence of bedsores. The skin care includes use of barrier creams, and using pressure relieving beds, mobilizing clients, positioning, and repositioning in every 2-4 hours, and using pressure relieving pads in the areas prone to bed sores. Nutritious food and dietary habits also play a vital role in preventing pressure ulcers. This will always help to keep the skin condition healthy. Poor dietary habits and unbalanced weight loss can increase the chances for the development of pressure ulcers. The clients should be provided with a balanced diet. The consumption of protein rich foods, zinc and vitamin C should be increased. It is also necessary to provide with a multivitamin supplement if a client is not able to eat. In the same way a nutritious drink should be provided if the client is unable to chew the foods. Hydration is also necessary to keep the skin healthy, so fluid therapy also maintain the skin integrity and prevent the damage of skin. (Saghaleini et al. 2018.)

3.3 The role of nurses in pressure ulcer prevention

Nurses play an essential role in primary prevention of pressure ulcers. They should always focus on the client needs, desires, and goals. Evidenced-based nursing practices help to obtain the good results and improvement in the client's condition. They are extensively used to improve the quality of care. These includes validated practices based on the research findings, rationalized and scientifically proven. The application of research findings in the care of the client and making clinical decision. The practices are directed in the use of new scientific based practices instead of old outdated practices. The process consists of translating the evidence, research findings and using it in the clinical care of the patients. They are the updated practices which help to meet the needs of the clients. In the care of the client the best practices based on evidenced, and clinically proven, are used in delivering the care to the patients. The best available evidence is used in the clinical practice and making decision. (Barbara & Gigrri 2021.)

Appropriate nursing assessment, interventions and quality care are needed in the care of the clients. Nursing care should be emphasized on client centred. This will help to identify the client need, make proper diagnosis, make the proper plan according to need and implement the plan. Nurses are responsible for delivering evidenced based care for the prevention of pressure ulcers. It is always essential to have knowledge, ideas, and experience to deal with any type of situations. Training, seminars, inservice education, and many skill developing programmes helps to enrich knowledge among the nurses. Through these educational and skill developing programmes nurses will gain more ideas to perform well in the clinical settings. It directly increases the chances to provide quality care to client. More evidenced based practices will come into actions which will directly increases the client's safety. (Draper 2019.)

Nursing role directs the nurses to deliver care by using the fundamental principles of critical thinking, scientific practices, and goal directed actions. Nursing role is an essential part in the treatment of pressure ulcers. They focus the nurses to use evidence-based practices in the prevention of pressure ulcers. Though it is a multidisciplinary team approach, nurses hold the responsible role in the prevention of pressure ulcer. Nursing role in the treatment of pressure ulcers consist of nursing assessment, setting goals, planning, and implementation of comprehensive care. Nursing assessment and interventions in early period are the key part in the prevention of pressure ulcers. Quality of care provided to patient in time also decreases further bad consequences of pressure ulcer in future. Good nursing practice is the most required portion in preventing pressure ulcers. Nurses are responsible for identifying the risk of pressure sores, setting goals, planning, and making interventions. (Tracey & Susan 2011, 106-110.)

95% of pressure ulcer can be preventable, so prevention of pressure ulcer is significant. Poor knowledge, information, and practices for the prevention of pressure ulcer increases the prevalence of pressure ulcers. Inadequate knowledge and, attitude in the prevention of pressure ulcers also increases the incidence rate of pressure ulcers. The inadequate availability of medical appliances also give rise to formation of injuries. The nurses with adequate knowledge and skills can easily apply their experiences in the care of pressure ulcer. They can easily choose the appropriate appliances, medicines in the care of the pressure ulcer. They can easily decide which patient need preventive measures, what measures is beneficial and how it can be implemented. With the help of updated knowledge, they can easily make decisions in the care of pressure ulcer patient. The updated protocols and guidelines should be used in the care of the patients instead of using outdated protocols. With the help of good knowledge, skills and abilities among the nurses not only prevent the pressure ulcer but also decreases time of hospital. (Jing et al. 2022.)

In the same way the heavy work overload and the shortage of care givers also affects the care of the patients. Nurses cannot focus and give adequate time in the treatment of higher risk client with pressure ulcers due to work overload and shortage of nurses. So, there should be adequate nurses for the effective care and treatment of the pressure ulcers clients. Unavailability of sufficient medical appliances and tools for the care of pressure ulcer too affect the care process. So, all the required equipment and resources should be available for the care of the patients. Early detection of risk of pressure ulcers is the most necessary and foremost step. Nurses should be able to assess the risk of developing pressure ulcer in time. They should be able to recognize the factors associated with developing pressure ulcer. There are many exaggerating factors which help to form pressure ulcer. Several factors should be assessed to decrease the risk of pressure ulcers. The essential elements that should be focus while preventing bedsores are surface, skin, movement of client, prevention of incontinence and moisture, position, nutrition, and hydration. (Berihu et al. 2020.)

Several methods and preventive methods can be used in the prevention of pressure ulcer. Assessment of the skin of the client is the foremost tool to identify the injuries. Documentation related to pressure ulcer should be done after assessing the client skin condition. In the bony prominences areas pillows and cushions should be used. By doing so the shear is decreased. The position of the bed ridden client should be maintained properly. The position should be changed every 15 minutes to two hours according to client needs. The skin should be assessed every day. The skin should be kept clean and dry. Caregivers should be encouraged to put oils and creams on the skin. These creams and oils help to prevent the excessive frictions. Absorbent pads and diapers should be used in urinary incontinence clients that hold moisture. It is also necessary to check the diapers and change it, if necessary. Nurses should be always encouraged to perform the skin daily. The routine skin care is prerequisite measures for the prevention of pressure ulcers. Any signs of infection and injuries should be determined priority. (Mitchell 2018.)

Assessing pain of the clients and management of pain should be done. Physical exercise also helps to decrease the occurrence of ulcers. Exercise helps to maintain adequate circulation. Adequate nutrition also decreases the chances of forming pressure ulcers. Nutritional diet should be maintained by providing balanced diet. The assessment of the risk factors for the pressure ulcers together with sufficient supplied of nutritious food prevents the formation of ulcers. Proper diet and food habits are essential for the prevention of pressure ulcer. Malnutrition increases the chances of formation of ulcers as well as decreases the healing process of wound after formation. So proper nutritional diet is vital to decrease the occurrence of pressure ulcers. The nutritional state of the client should be identified. The nutritional status should be assessed by using the appropriate and recognised tools. After assessing the nutritional condition of the client, appropriate options and treatment

measure should be used if necessary. Dietary supplements can be used to improve the condition of poor appetite and malnutrition clients. Different types of nutritional supplements can be supplied to correct the nutritional state of client. (Taylor 2017.)

4 Methodology

4.1 Practice Based Thesis

This thesis was carried out using practiced-based method. The main features of practice-based thesis are to create the concrete product as a result. The product can be for example poster, guide manual chart, educational video, or pamphlets. There is the involvement of different agents in the implementation process of this thesis. In the practice-based thesis there is the involvement of commissioning partner which acts as cooperation partner. The aim is to develop and provide instructions for organizations to strengthen the quality of care or activities. This method is selected in the basis of the topic, its consequences, and with the collaboration of commissioning partner. The commissioning partner can be an organization or institutions. The final product is produced with the cooperation with the commissioning partner according to the need. There is the interaction between the student and the commissioning partner throughout the thesis process by the means of discussions, assessment, evaluations, adding ideas and giving feedbacks. (Linda & Ernest 2018.)

Practice based thesis is the process of developing the working life. It develops practical actions, instructions, make rationalization of organization in professional field. Through the practice-based thesis object, event activity or product is produced. Beside creating and producing the product there is also research and report writing part in practice-based thesis. In this type of research, the information is provided in the topic chosen and the evidenced based thesis. The contained of this type of thesis will be two parts i.e., functional part (includes report) and the final product (chart, poster, video, guidelines). In this type of thesis, report is written at the end, and commissioning partner is required from working life. In Universities of applied sciences, students use practice-based thesis for demonstrating their professional knowledge, skills, and education. (Yoder et al 2014.)

In the practice-based thesis the framework used is PDSA model. In this type of framework, the process is followed consequently one by another in accordance with plan, do, study and lastly action made. This type of model is used in medical field as the new ideas are evolved in last stage. Firstly, the model starts with determining the goals, which is followed by planning part and implementing the plan. Lastly there is finalization of the product and research which is done by the evaluation and assessment of the product. Criticism is found in this type of model due to lack of considerations of different factors. These factors include social factors, cultural factors, and human factors. (Li et al. 2019.)

The final product of this thesis was poster. Poster was formed in the prevent of pressure ulcers. The poster described the roles of nurses in the prevention of pressure ulcer. The instructions for the nurses

were provided in the prevention of pressure sore in elderly care setting. Through this poster the nurses were able to impart their roles more effectively in the care of the patient. The framework for the proper planning and implementation of nursing care in the prevention of pressure ulcers was set. The final product was produced in cooperation with the commissioning partner.

Different databases were used for collecting the ideas and evidence-based guidelines. The research topic was studied more precisely to collect more relevant knowledge and key concepts. Different searches were made for defining the topic, setting goals, implementing, and producing the final products. Discussions and communications were made actively with the cooperating partner for their current needs, conditions, and expectations.

After the production of the poster in accordance with the need of commissioning partner. The posters were presented in the aged care. The assessment of the chart was done by the nurses working in aged care. It was done by collecting the feedbacks from the nurses. The questionnaire used was open ended and closed ended questions. The data and feedback obtained is mentioned in this thesis. The quantitative research method was used.

Criteria for creating posters

Posters are one of the widely used medium in academic and health care sectors. Posters can be the combination of text and pictures where the information is set to impart among audience. The posters used in academic setting is known as academic poster. Poster can be used in many ways. They are used in many fields and are the strongest source of communication. They are used in advertisement of different brands, work vacancies, imparting message, health awareness campaigns. They can be found in the written form as well as in the form of pictures, graphs, or both. Good posters were always attractive and collect interest to the readers. The arrangement of the words should be simple and easy to the audience. It is said that the colour attracts the people, so good posters containing colourful pictures are more attractive. The words and points of the posters should be clear and more convenient for the readers to understand. The posters contain the important points and message that are essential for the certain population in their daily life and their work settings. (Trent university 2015.)

There are certain criteria for producing the good academic poster. The text of the posture should be readable and under stable. The title and the content of the posture should be simple in language. Posters must be able to collect the interest of the people and readers. In academic posters the words should not exceed more than 800 words. It should be designed to collect the focus of audience to the poster. The overall physical appearance of poster plays a vital role. The attractiveness and effective-

ness can be increased by using bullets, numbering, and highlighting the headlines. Good design module also helps to draw the attention of people. The selection of appropriate graphic design, colours and font size also increases the quality of poster. The appearance of poster attracts the people to read the content. The lean and consistent layout also increases the attraction to the readers. It makes the learners easier to understand. Unintentionally the people are interested to read the content if the physical appearance of posters are attractive. These components are very essential in forming the good quality of posters. (Eleanor & Veronika 2021.)

In the health care sectors poster plays a key role in communicating, imparting knowledge and ideas. The posters are used in increasing knowledge, ideas, practice, and attitudes in health care settings. Especially in the mass population, by using poster information and the knowledge are delivered more conveniently. Posters attract the attention of the public people. Different types of health-related information are explained in the posture. In the same way they are also used to elaborate the results of developmental projects in health care sectors. The good poster can make changes in the work settings and makes easier to achieve our goals. Through the information's present in posters, nurses can collect knowledge, ideas and upgrade their experience. It will directly help the health care facilitators to make implementations by using their knowledge and updated information's. (Harsono et al. 2019.)

Easy Finnish language

Easy Finnish was developed since 1980s. Nordic cooperation had played a vital role in the development of easy Finnish. It was firstly developed for the people with intellectual disabilities. Later it was also focuses on immigrants and the elderly people. The Finnish centre for easy language (selkokeskus) was established in 2000. The need of easy Finnish is increasing. It is helpful for the people with learning disorders, people with neurological disorders, memory disorders and the foreigners. In the different situations easy Finnish can be used, and it can be also useful in mental health rehabilitation centre for treating patients. It can also be helpful for the immigrants to understand the situations. The need of easy Finnish language is vital in all the situations. The use of easy Finnish language is increasing in all the sectors. In the same It is also helpful for the old, aged population. Due to aging old age population are facing the problem of memory disorder. So, using easy Finnish language, we can make the old, aged people understandable. (Selkokeskus 2023.)

In the same way it is also a good gate way to understand the Finnish society and incredible for new learners to learn through easy medium. The language is useful for the new learners and provides help for the students who have linguistic difficulties. It provides the learners with positive feelings and attitudes. The main objective was to provide help for the people from the all the backgrounds. Different books, brochures, and websites have been developed to make the learner easier. It provides

tool for the people and make them easy to understand. It is also useful for other group of people. Easy Finnish acts as an essential tool for the people to learn Finnish language. The text and literature are arranged in simple way that make the people convenient for understanding. The aim was to reduce the difficulties experienced by the people. The text and literature of the easy Finnish was accessible to the people. (Selkokeskus 2023.)

4.2 PDSA model

PDSA model stand for Plan, Do, Check, and act cycle. PDSA model are the building blocks for the changes made in health care. It was first introduced by Walter Shewhart in 1920s. The cycle provides a constant framework for examine the changes to improve the quality of the system. The PDSA approaches are used in implementing the care practices and evaluating the results. In the assessment of the outcomes the approaches are used. This model is widely used and accepted in the health care improvement sector. The PDSA model is mostly appropriate and suitable in guiding the implementation process. In the PDSA cycle, plan stage explains a change aim at improvement is obtained, the do stage the change is tested, the study stage assess the outcome of the change and the act stage analyse the adaptations and the next method to build a new cycle. It is also known as model for improvement. (Taylor et al. 2014.)

The PDSA consist of pragmatic principles. The use of scientific method for testing changes in the compound system is done. It also promotes the use of small-scale iterative approach for assessing the intervention and flexible for making change after receiving feedback. It provides the framework for developing, testing, and implementing change that leads to improvement. It is based on scientific method which takes the immediate action with the help of careful study techniques. The PDSA Model is used to test the changes in a small scale, learning from these cycles in a structured way before the presentation and implementation. It provides an opportunity to determine whether the change will succeed or not. The learners can collect the ideas after the implementation of change or product. They can learn from both positive and negative results. This will enable the creator to test the quality of change and products. (Jerome & Kaveh 2017.)

Evidenced based practices are used in the health care systems. The use of qualitative improvements models is used to make measurable changes in health care sectors. It also helps to impart qualitative care to the patients and upgrades services. The information's and practices are updated, and use of new changes are implementation. While planning any projects or change it is important to know what we are going to achieve, how we will implement, its measurement of improvement and express its ideas of result. In the first stage plan, the change to be made is identified, the second stage do, the change made is tested, the third stage study, the outcome of the change is assisted and in the act

stage, the adaptations identified, and further changes is made. At the first we cannot get the expected results, so it is tested in the small group before its implementation in a mass. PDSA model is appropriate to guide the implementation process. (Patricia et al. 2021.)

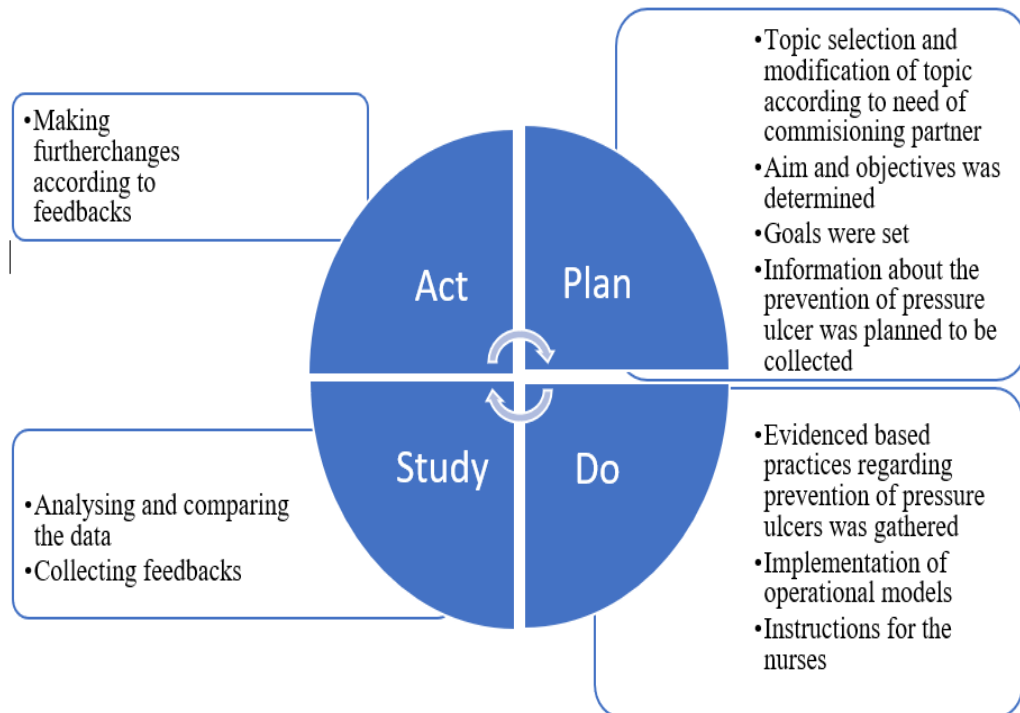


Figure 1: The above figure describes the developing process of poster.

4.3 Development process

Planning stage

Planning is one very important phase in thesis process. Planning is always necessary to achieve the goals. In the planning stage the objectives are set. It also provides a framework, on how work is to be done. It is always necessary to be confirmed about the goal of the project. While planning it is always necessary to assume the consequences. There may be both positive as well as negative results. The mind should be set to accept both the results. The time should be always set and the work to be done in time scheduled. In the planning stage the place, time, purpose, and the need of the project is well defined. It is also decided that what information's is collected. It is also explained that

which group of population are benefited through the project. There is the prediction of the outcome of the project. (Martin & Bernie 2018.)

The writer of this thesis started with choosing the topic related to nursing practices. Many topics have been searched, discussed, and studied. Finally, the topic was more interested to the writer and the most prevailing problem in the nursing everyday work. The Topic was discussed with commissioning partner. The commissioning partner was also very positive, as there were many cases of pressure ulcers. The commissioning part was informed about the plan of the thesis. The part was informed about the final product of the thesis. The posters as a final product of the thesis will be created. The simple Finnish language was used. The posters will help the nurses in the prevention of pressure ulcers. The information's and data were collected regarding pressure ulcers through various sources. The authors searched the information regarding pressure ulcers through different sources as LAB primo data bases, google scholar, EBESCO, PubMed, Medline, Terveystietti, Duodecim and scientific studies.

Implementation stage

Implementation stage is also known as do stage. There is the implementation of the planned made. In this stage the prepared plan is made into practice. The change is made, data is collected. Different studies, evidenced based practices, peer reviewed journals are searched and studied to collect the information. The commissioning partner was also actively involved in providing the opinions and suggestion for creating the posters. (Knudsen et al. 2019.)

In this stage the posters were formed. Different scientific studies were searched, studied to collect the knowledge and information. The evidenced based practices were more focused and preferred, as rationalization can be obtained in nursing practice. New updated ideas and knowledge were used. Easy Finnish language was more preferred so to make the audience easily understandable. The short and smooth phrases are used instead of long sentences. Long sentences were avoided. Bullets points were used to make more attractive. Headings were highlighted to draw the interest of the readers. It will also make the posters more attractive and collect the learner's interest. It is easy for the leaders if it short. It does not need too much time to go through the text. It will save the time in this busy schedule for the learners.

Assessment and action

In this stage furthermore studies and data were analysed to make changes in the posters. In the stage the changes were accepted to make the good posters. In this stage the cycle can be repeated if the implementation phase is not succeeded to achieve the effective goals. During the study stage, the

ideas used in creating the posters were evaluated and tested. It is possible to repeat the PDSA cycle until the final product is gained. (Julie & Alan 2020.)

In the study stage the product formed is tested and feedbacks are gathered. The action of gathering opinions upon the product is applied in this phase. In this stage the assessment of the product is done by the audience and the further modifications is done in accordance with feedbacks. The PDSA model is a constant repetitive process until the effective results or product is formed. In this process the information's and the ideas are gathered which will help to formulate the product more fruitfully. According to the collected comments upon the product, the changes are done. The flexible and responsive feedback systems are always essential to achieve desire product. (McGown & Reid 2018.)

The quantitative method was used to collect the feedbacks of the product. Quantitative research method is the process of collecting numerical data along with analyzation. This method is used frequently in natural and social sciences. This method is widely used to test experiment, process, and plans. There are several methods for collecting the data in quantitative research methods. Different prevailing problems, status of selected group of people can be understand through this method. They are questionnaire, observations, and surveys. In this study the numerical was used to collect the feedbacks of effectiveness of posters from the audience. The numerical assessment of the product will help to determine the effective ness of the posters. The scale was used to determine the audience responses upon the posters. (Pritha 2020.)

Quantitative data collection method was used to collect the feedback of the posters. The Likert scale was used to collect the opinions of the readers. The respondents choose the options for the agree or disagree to the final product. The Likert scale consist of five points. the first point 1 represents strongly agree, 2 is disagree, 3 is neither agree nor disagree, 4 is agree and 5 is strongly agree. The nurses working in elderly home were selected randomly. The questions were formed. The five of the nurses were randomly selected and their opinions were gathered about the product. There are two open questions and seven multiple choice questions. These questions are formed on the criteria of good poster. After the evaluation and approval of questionnaire and poster, an approach was done. The poster was presented in elderly home and the feedbacks were selected from the selected nurses. The feedback given was used to assess the guidebook. The table below shows the feedback of the nurses working in elderly home.

Figure 2 Poster evaluation questionnaire in the prevention of pressure ulcer

Evaluate the below statements related to poster in the scale of 1-5

	1. Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree
The poster helps in preventing pressure ulcers				4	1
The poster highlights the measures in preventing pressure ulcers				2	3
The font size used is visible				1	4
The colour used is appropriate			3	2	
The poster is well-organized			1		4
The poster is helpful in caring pressure ulcers				1	4

The nurses answered the three open-ended questions.

1. What must be improved in poster?

Background colour should be lighter. Some of the points should be written together and some of them should be explained. The points should be shortened and easily understandable.

2. Which part of the poster is good?

It is simple and easy to understand. All the important points are included in the poster. Suitable for the nurses in the care of the nurses and for the new nurses. As it is written in easy Finnish language easy for the international nurses.

3. How did the poster benefit in the care of patient? Write in your own words.

It reminds the nurses to frequently change the positions and prevent pressure ulcers. Provides framework for the nurses prevent pressure ulcer. It is not time consuming as it is short, they can go through all the important points in short time.

Considering the feedbacks received from the nurses working in the elderly home, helped to make changes to the poster. The valuable views achieved about the poster was respected and appreciated. According to the feedback from the nurses the colour of the poster was darker, font size was small, some of the points must be shortened and there was repetition of sentence. The author made the changes according to feedback obtained in final poster. The lighter colour was used in the poster, font size was increased, the sentences were shortened and there was not any repetition of sentence giving same meaning.

From the feedback gathered from the nurses, most of the nurses mentioned that they have benefited from the poster. The poster act as guide for the prevention of pressure ulcer. The sentences used in the poster are short and easily understandable. It takes short time to go through all the important points for the prevention of pressure ulcers.

5 Discussions

5.1 Ethical aspects and trustworthiness

Ethical aspects and considerations are the important part in research. They play an important role in conducting research. The research guidelines and boundaries are essential part in research process. Students should strongly follow the guidelines and considerations while conducting research- The Finnish National Board on Research integrity (TENK) is a responsible body in Finland for promoting the responsible conduct of research and dealing of misconducts. It is also responsible for distributions ideas and information in the respective topics. It is a special body appointed by the ministry of education and culture on the proposal of scientific community. It provides guidelines for all the academic organizations in Finland. It also has set the guidelines for conducting responsible research in cooperation with the research community. (Finnish Advisory Board on Research Integrity 2012.)

The guidelines and the ethical principles introduced by the Finnish National Board on Research Integrity (TENK) for conducting the research study is taken into considerations. The sources used in this thesis is written according to the LAB thesis guidance of LAB University of Applied Sciences. (LAB 2021a.)

Trustworthiness makes the research more rational for which the people can trust the findings and the changes obtained from the study. The findings can be used by the readers in the further study in future. It is important to examine closely or go thoroughly to all the process of analysis. This will help to obtain the relevant findings and the results of the study This will also build the feeling of trustworthiness to the readers and user of the product. It also helps the learners to collect the ideas and knowledge. Trustworthiness should be maintained in all the phases of study so the readers can get relevant ideas from the study. (Satu et al. 2014, 2-4.)

Ethical considerations are the special issue while writing thesis. In the same way, the selection of correct methodology and method is the essentiality of ethical considerations while conducting research. Before conducting the research, the approval should be obtained. The written approval is important, before collecting the data from the participants. The approval after collecting the data may keep the researchers outside the institutions staff code of Conduct. Informed consent is necessary to be taken. The participants must be informed what will be asked, how will the data used, what will be the results and the protection of their personal information. The identity of the participants should be kept confidential. (Jenny & Karsten.)

All the ethical considerations are followed in the thesis process. Thesis is conducted within the boundary set by the board. The premises that are available for conducting research will be strictly used. The thesis is carried out with honesty, interest, scientific based and accuracy. Thesis requires commissioning partner, so contact is made with the partner organization. Discussion was made with commissioning partner. While conducting research the right of the participants will be respected.

There is the involvement of cooperating partner organization and the participants throughout the research. The participants are respected without any discriminations. Confidentiality is maintained for their feedbacks and thoughts. Nurse's opinions regarding the posters will be collected, no personal data will be collected. The final product obtained from the thesis is used by home care nurses for strengthening their roles in prevention of pressure sores. There is no risk of any harm for the participants and environment throughout the process of thesis.

5.2 Assessment and Further Studies

Pressure ulcer is one of the emerging health problems all over the world. Though many new advances are introduced in the care of pressure ulcers but still the cases of pressure ulcers are increasing. The incident rate of pressure ulcer is higher in the elderly care setting. Pressure ulcers are more common in the elderly population, bedridden clients, and with physical motor disorders. The treatment cost of pressure ulcers is the third most expensive after cancer and cardiovascular diseases. Thousands of millions every year is Every year thousands of people die due to its complications. The mortality rate of pressure ulcer is 2 to 6 percentage more than other diseases. Pressure ulcer also increases the incidence rate of hospitalization. Pressure ulcer is one of the important and evolving issue in health care sector, and in the whole health care system, so many preventive measures and guidelines have been developed in the United States and Europe. (Lotfolah et al. 2020.)

Pressure ulcers are preventable health problem when proper intervention is applied in early stage. They are also the indicators for assessing the nursing care and nursing interventions. Pressure ulcers are the most severe and the life-threatening issue in the health care settings all over the world. They are the health care problem of all over the world causing discomfort, pain, decreases the ability to perform the daily life activities and if remain untreated lead to serious complications. Different studies had been made in different parts of the world in the prevention of pressure ulcers. From these studies it is found that the nursing care and assessment are not sufficient in the prevention of pressure ulcers. The prevention of pressure ulcer is the challenging task in the nursing care setting. Poor

knowledge, inadequate devices and tools, work overload, outdated guidelines are the associated factors for rising the incidence of pressure ulcers. So, these factors should be further studies, analysed and updated before imparting care. (Asmare et al. 2020.)

The nurses working in the elderly care home will benefit from this poster, it will help the nurses to provide care to the client with bed sores. As elderly people are increasing enormously, and more helping hands are needed in the care of old people. Due to different disease conditions, aging and accidents, there is impossibility of self-care. There are largest number of bedridden and immobile clients in the elderly home. There are many cases of pressure sores are present in the elderly home. Through this poster the knowledge and idea in the care of the client with pressure ulcers will be strength. Poster will act as a helping tool to broaden the idea in preventing pressure ulcers. The poster is written in simple Finnish language. This will also make more easier for international nurses to understand the ideas of pressure ulcers prevention. This also create the framework in treating the pressure ulcers.

The aim of the author was to produce the poster, this was achieved. The thoughts and the wish of commissioning partner was asked. The wish of the commissioning partner was fulfilled in this poster. The final product of this thesis is poster which contain the prevention of pressure ulcers. Through this poster the nurses can obtain the ideas and knowledge in the prevention of pressure ulcers. The nurses can enrich their knowledge in the prevention of pressure ulcers. The updated information will increase the possibility of good nursing practices. This will also act as a guiding framework and help the nurses to care the clients with bed sores. This will also decrease the further complications of pressure ulcers in the future. Based on the criteria of good poster the poster was formulated.

During the process of forming the poster the author faced many challenges. The author faced changes in selection of font size, the language, and the size of the poster. The topic is broad, and it was challenging for the author to cover all the important parts. All the parts of the topic were equally important. The author has found difficult to cover all the essential measures. The author has tried to involve all the points. The author has highlighted the foremost issues in short and convenient manner. The author has used the simple Finnish to make understand to all the people including immigrants' nurses. The author found difficult to write in simple form. The poster will be use as a mind map in preventing the patients with pressure ulcers. The poster will be posted in the information board of nurses' station, as well as in the corridor.

References

- Agrawal, K. & Chauhan, N. 2012. Pressure ulcers: Back to the basics. *Indian Journal of Plastic Surgery*, Vol 45(2), 244–254. Retrieved on 15 October 2021. Available at <https://doi.org/10.4103/0970-0358.101287>
- Attendo Varisto. Retrieved on 04 April 2023. Available at <https://www.attendo.fi/palve-lumme/palvelut-ikaihmisille/hoivakodit/vantaa/attendo-varisto/>
- Barker, E. & Philips, V. 2021. Creating conference posters: Structure, form, and content. *Journal of perioperative practice*, Vol 31, 7-8. Retrieved on 04 April 2023. Available at <https://doi.org/10.1177/1750458921996254>
- Berihu, H., Wibayehu, T., Telku, T., Zeru, T. & Gerense, H. 2020. Practice on pressure ulcer prevention among the nurses in selected public hospitals, Trigray, Ethiopia. Retrieved on 04 April 2023. Available at <https://doi.org/10.1186/s13104-020-05049-7>
- Bhattacharya, S. & Mishra, R. K. 2015. Pressure ulcers: Current understanding and newer modalities of treatment. Retrieved on 4 April 2023. Available at <https://doi.org/10.4103/0970-0358.155260>
- Bhandari, P. 2020. What is quantitative research? Definition uses and method. Retrieved on 4 April 2023. Available at <https://www.scribbr.com/methodology/quantitative-research/>
- Borojeny, L A., Albatineh, A N., Dehkordi, A H. & Gheslagh, R G. 2020. The Incidence of Pressure Ulcers and its Associations in Different Wards of the Hospital: A Systematic Review and Meta-Analysis. Retrieved on 06 March 2023. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7716611/>
- Candy, L. & Edmonds, E. 2018. Practice based thesis in creative arts: foundations and futures from frontline. *Leonardo*, Vol. 51 (1), 63-69. Retrieved on 28 March 2023. Available at https://doi.org/10.1162/LEON_a_01471
- DerSarkissian, C. 2020. What are the stages of pressure sores? WebMD. Retrieved on 15 October 2021. Available at <https://www.webmd.com/skin-problems-and-treatments/pressure-sores-4-stages>
- Draper, J. 2019. The importance of person-centred approaches in nursing. Retrieved on 15 October 2021. Available at <https://www.open.edu/openlearn/health-sports-psychology/healthcare-careers/the-importance-person-centred-approaches-nursing-care>

- Ebi, W E., Hirko, G F. & Miljena, D A. 2019. Nurses knowledge to prevent pressure ulcer prevention in public hospital in Wollega: a cross sectional study design. Retrieved on 23 March 2023. Available at <https://bmcnurs.biomedcentral.com/articles/10.1186/s12912-019-0346-y>
- Edsberg, L E., Black, J M., Goldberg, M., McNichol, L., Moore, L. & Sieggreen, M. 2016. Revised National Pressure Ulcer Advisory Panel Pressure Injury Staging System. *Journal of wound, ostomy and continence nursing*, Vol. 43(6), 585- 597. Retrieved on 01 January 2023. Available at DOI [10.1097/WON.0000000000000281](https://doi.org/10.1097/WON.0000000000000281)
- Elo, S., Käärinen, M., Kanste, O., Pölkki, T, Utriainen, K. & Kyngäs, H. 2014. Qualitative Content Analysis: Focus on Trustworthiness. Retrieved on 09 October 2022. Available at <https://journals.sagepub.com/doi/pdf/10.1177/2158244014522633>
- Etafa, W., Argaw, Z., Gemechu, E. & Melesa, B. 2018. Nurses attitude and perceived barriers to pressure ulcers. Retrieved on 05 April 2023. Available at <https://link.springer.com/article/10.1186/s12912-018-0282-2>
- Finnish Advisory Board on Research Integrity. Guidelines of the Finnish Advisory Board on Research Integrity 2012. Responsible conduct of research and procedures for handling allegation of misconduct in Finland. Helsinki. 2013. Retrieved on 15 October 2021 Available at https://www.tenk.fi/sites/tenk.fi/files/HTK_ohje_2012.pdf
- Fleming, J. & Zegwaard, K E. 2018. Methodologies, methods, and ethical considerations for conducting research in work- integrated learning. Retrieved on 15 October 2022. Available at <https://files.eric.ed.gov/fulltext/EJ1196755.pdf>
- Getie, A., Baykie, A., Bante, A., Geda, B.& Mesfin, F. 2020. Pressure ulcer prevention practices and associated factors among nurses in public hospitals of Harari regional state and Dire Dawa city administration, Eastern Ethiopia. Retrieved on 15 October 2021. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737888/>
- Grada, A. & Phillips. 2019. Pressure Ulcers. MSD Manual Profession Version. Department of Dermatology, Boston University School of Medicine. Retrieved on 15 October 2021. Available at <https://www.msmanuals.com/professional/dermatologic-disorders/pressure-ulcers/pressure-ulcers>
- Harsono, H., Rosanti, S R. & Seman, N A A. 2019. The effectiveness of posters as a learning media to improve student learning quality. Retrieved on April 4. Available at https://www.researchgate.net/publication/332543776_The_Effectiveness_of_Posters_as_a_Learning_Media_to_Improve_Student_Learning_Quality

- Katowa, M P., Mwiinga, K V., Chitundu, K., Kanyanta, M., Chanda, D., Mwebe, M M., Ruth, M., Mundia, P. & Carrier, J. 2021. Implementing evidenced based practice nursing using the PDSA model: process lessons and implications. Retrieved on 5 April 2023. Available at <https://doi.org/10.1016/j.ijans.2020>
- Knudsen, SV., Laursen, H V B., Johsen, S P., Bartels, P D., Ehlers, L H. & Mainz, J. 2019. Can quality improvement improve quality of care? A systematic review of reported effects and methodological rigor in plan do study act projects. Retrieved on 5 April 2023. Available at <https://doi.org/10.1186/s12913-019-4482-6>
- Li, S., Cao, M. & Zhu, X. 2019. Evidence-based practice. Knowledge, attitudes, implementation, facilitators, and barriers among community nurses systematic review. Retrieved on April 4 2023. Available at DOI [10.1097/MD.00000000000017209](https://doi.org/10.1097/MD.00000000000017209)
- McGowan, M. & Reid, B. 2018. Using the Plan, Do, Study, Act cycle to enhance the student feedback system for older adults. British Journal of Nursing, Vol. 27(16). Retrieved on April 4. Available at <https://doi.org/10.12968/bjon.2018.27.16.936>
- Taylor, M J., McNicholar, C., Nicolay, C., Darzi, A., Bell, D. & Reed, J E. 2014. Systematic review of the application of plan-do -study -act method to improve quality in healthcare. Retrieved on 04 April 2023. Available at <https://qualitysafety.bmj.com/content/23/4/290>
- Taylor, C. 2017. Importance of nutrition in preventing and treating pressure ulcers. Retrieved on 28 March 2023. Available at <https://doi.org/10.7748/nop.2017.e910>
- Tervo- Heikkinen, T A., Heikkilä, A., Koivunen, M., Kortteisto, T R., Peltokoski, J., Salmela, S., Sankelo, M., Ylitörmänen, T S. & Junttila, K. 2021. Pressure injury prevalence and incidence in acute inpatient care and related risk factors: A cross-sectional national study. Retrieved on 04 April 2023. Available at <https://trepo.tuni.fi/handle/10024/134536>
- Trent University. Creating posters presentations. 2015. Retrieved on April 2023. Available at <https://www.trentu.ca/academicskills/how-guides/how-write-university/how-approach-any-assignment/creating-poster-presentations#Communication%20Tool>
<https://doi.org/10.1111/hir.12015>
- Mitchell, A. 2018. Adult pressure area care: preventing pressure ulcers. British Journal of Nursing, Vol 27, No 19. Retrieved on 15 October 2022. Available at DOI [10.12968/bjon.2018.27.18.1050](https://doi.org/10.12968/bjon.2018.27.18.1050)

National Pressure Ulcer Advisory Panel (NPUAP), European Pressure Ulcer Advisory Panel (EPUAP) & the Pan Pacific Pressure Injury Alliance (PPPIA). 2016. Prevention and treatment of Pressure ulcers: Quick Reference guide. Retrieved on 15 October 2022. Available at <https://www.epuap.org/wp-content/uploads/2016/10/quick-reference-guide-digital-npuap-epuap-pppia-jan2016.pdf>

National Institute for Health and Care Excellence. 2014. Pressure ulcer: prevention and management. Retrieved on 15 October 2022. Available at <https://www.relias.com/blog/7-steps-to-prevent-pressure-sores>

Nursing home abuse centre protecting our seniors. 2019. Bedsore causes in nursing homes. Retrieved on 15 October 2022. Available at <https://www.nursinghomeabusecenter.com/nursing-home-injuries/bedsores/causes/>

Nursing home abuse guide.org. Bedsores. Retrieved on 15 October 2022. Available at <https://www.nursinghomeabuseguide.org/bedsores>

Oklahoma Foundation for Medical Quality, the Medicare Quality Improvement Organization for Oklahoma, United States. Department of Health and Human Services. Preventing Pressure Ulcers: A Patients Guide. Retrieved on 15 October 2022. Available at https://www.cdss.ca.gov/agedblind-disabled/res/VPTC2/8%20Paramedical%20Services/Preventing_Pressure_Ulcers_Patient_Guide.pdf

Selkokeskus. 2023. The background of easy Finnish. Retrieved on 5 April 2023. Available at: <https://selkokeskus.fi/in-english/easy-finnish/background-of-easy-finnish/>

Speck, D., Mikus, E., Reese, P & Scarborough, P. 2016. The Braden and Beyond Pressure Ulcer Prevention. Bureau of community and health systems 2016 joint provider surveyor training. Retrieved on 15 October 2021. Available at https://www.michigan.gov/documents/lara/Spring_2016_JPST_Wound_Care_both_sessions_powerpoint_518208_7.pdf

Skains, R. 2018. Creative practice as research: discourse on methodology. Journal of Media Practice. Retrieved on 15 October 2021. Available at <https://www.tandfonline.com/doi/pdf/10.1080/14682753.2017.1362175?needAccess=true>

Syed Rafay H, Z. & Sharma, S. 2022. Pressure Ulcer. Retrieved on 22 August. 2023. Available at <https://www.ncbi.nlm.nih.gov/books/NBK553107/>

- Wound Source. 2016. What is a decubitus Ulcer? Retrieved on 15 October. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3495374/>
- Savolainen, J. & Sihvola, N. 2016. Pressure ulcer prevention and detection. Retrieved on 10 November 2022. Available at https://www.theseus.fi/bitstream/handle/10024/110826/Savolainen_Jenni.pdf;
- Kisling A, L. & Das M, J. 2022. Preventive strategies. Retrieved on 15 October 2022. Available at <https://www.ncbi.nlm.nih.gov/books/NBK537222/>
- Hartin, T. 2022. Study.com. Understanding the three levels of Prevention. Retrieved on 08 October 2022. Available at <https://study.com/learn/lesson/primary-secondary-tertiary-prevention-levels.html>
- Institute for work and Health. Research excellence safe work Healthy workers. 2015. Retrieved on 08 October 2022. Available at <https://www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention>
- Saghaleini, S., Dehghan, K., Shadvar, K., Sanale, S., Mahmoodpoor, A. & Ostadi, Z. 2018. Pressure Ulcer and Nutrition Retrieved on 01 January. 2023. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5930532/>
- Syed Rafay, H. Z. & Sharma, S. 2022. Pressure Ulcer. Retrieved on 01 January. 2023. Available at [Pressure Ulcer - StatPearls - NCBI Bookshelf \(nih.gov\)](#)
- Vellone. 2016. Nursing science and Prevention. Retrieved on 04 April 2022. Available at <https://www.biomedicineandprevention.com/manuscript/nursing-science-and-prevention>
- Wilson, B & Austria, G. 2021. What is evidenced based practices? Retrieved on 04 April 2022. Available at <https://accelerate.uofuhealth.utah.edu/improvement/what-is-evidence-based-practice>
- Wondimeneh, S. S., Tadesse, Y. A., Henok, M. & Yared, A. A. 2020. The global burden of pressure ulcers among patients with spinal cord injury: a systematic review and meta-analysis. Retrieved on 05 January. 2023. Available at <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-020-03369-0>
- Yoder, L H., Kirkley, D. Kirksey, K M., Stalbaum, A L. & Sellers, D. 2014. Staff nurses use of research to facilitate evidenced based practices. American Journal of Nursing,

Vol.114(9), 26-37. Retrieved on 05 January. 2023. Available at DOI
[10.1097/01.NAJ.0000453753.00894.29](https://doi.org/10.1097/01.NAJ.0000453753.00894.29)

APPENDICES

Appendix 1. Co-operation Agreement form



RESEARCH PERMIT APPLICATION

DATE 12.05.2022

Organisation	
Attendo, Variston hoivakoti	
Thesis author(s) Activate Name and click the + button to add a new row	
Name	Arpana Adhikari
Thesis topic	
Nurses role in the prevention of pressure ulcer.	
Thesis supervisor(s) Activate Name and click the + button to add a new row	
Name	Tuija Rinkinen & Hannele Tittanen
Summary of the thesis plan	
13.05 thesis implementation 01.06 Finalization	
Description of the thesis methods	
Practiced Based Method	
Background material needed in the thesis work	
Information of the organization	
Storage and disposal of the thesis material	
The material produced by the study will be given to commissioning partner. Thesis will be published in the thesus.	
Thesis schedule	
05 implementation 06 Finalization	
Utilisation of the results of the thesis	
The final product will be utilized in upgrading the knowledge of nurses.	
Other partners, if any	

Click to enter text.	
Appendices (thesis plan and other possible appendices, such as a questionnaire form)	
The assessment of the product will be done. Questionnaire will be used to assess the product	
Further information	
Thesis author(s) and signature(s) Activate Name and click the + button to add a new row	
Name:	Arpana Adhikari
Student ID	
Group ID:	HLTINURSE20S
E-mail:	arpana.adhikari@student.lab.fi
Telephone:	
Time and place	12.05.2023 , Vantaa
Signature and name in block letters:	ARPANA ADHIKARI _____ Click to enter text.
Instructor details and signature(s) Activate Name and click the + button to add a new row	
Name:	Sari Lappalainen
E-mail:	Sari.Lappalainen@lab.fi
Telephone:	
Time and place	
Signature and name in block letters:	_____ Click to enter text.
Decision on the granting of research permit	
<input type="checkbox"/> Research permit granted as applied for <input type="checkbox"/> Research permit granted with modifications (description with modification requirements) <input type="checkbox"/> Research permit not granted (justifications)	
Justification	
Click to enter text.	
Approver's details and signature	
Time and place	Click to enter text.
Signature and name in block letters:	_____ Click to enter text.

Appendix 2. Poster

PAINEEHAAVAN ENNALTAEHKÄISY

PAINEN POISTO

1 Arvioi riski liikuntakyvyn mukaan

- Asukkaan liikuntakyky on tärkeä mittari, kun arvioidaan riskiä painehaavan syntyyn
- Jos liikuntakyky on huono, on suuri riski saada painehaava
- Liikkuminen estää painehaavan syntymisen

2 Ihon kunnon tarkistaminen

- Hoitajan täytyy tarkistaa asukkaan ihon kunto säännöllisesti
- On pienempi riski saada painehaava hyväkuntoiselle iholle
- Tarkista ihon kosteus, kuivaus, lämpötila, turvotus.

3 Ihonhoito, inkontinenssin hoito

- Pidä iho kuivana ja puhtaana
- Laita rasvaa joka päivä
- Vaihda inkontinenssisuojat usein ja tarvittaessa
- Laita painehaava suoja haava-alueelle

4 Asentohoito ja mobilisaatio

- Vaihda asentoa joka 2–4 tunnin välein
- Käytä asentohoitotyynyjä ja pehmeitä tarvikkeita riskialueella
- Pidä asukas päätyasennossa voimien mukaan
- Mobilisaatio auttaa lisäämään vierenkiertoa

5 Ravitsemuksen hoito

- Arvioi alaravitsemuksen riski
- Tarvittaessa konsultoi ravitsemusterapeuttia
- Tarjoa proteiinia, sinkkiä ja C vitamiinia sisältävä ruokavalio.
- Tarjoa täydennysravintovalmisteita, jos asukas ei pysty syömään kunnolla.

Painehaavariski:

- | | |
|-----------------|---------------------|
| - Vuodepotilas | - Huono verenkierto |
| - Inkontinenssi | - Liikkumattomuus |
| - Ikä | - Vajaaravitsemus |

6 Nesteytys

- Tarkista, onko potilaalla kuivumisen merkkejä
- Anna lisää nestettä, jos potilaalla on nestehukka
- Hyvä nesteytys
- Kuivuminen lisää painehaavan riskiä

7 Kirjaaminen

- Kirjaa riskiluokka, painehaavan sijainti ja tyyppi
- Arvioi haava joka vuorossa
- Dokumentoi kaikki muutokset
- Kirjaa hoitosuunnitelma ja toteutetut toimenpiteet

LÄHTEET

Mitchell, A. 2018. Adult pressure area care: preventing pressure ulcers. *British Journal of Nursing*, Vol 27, No 19. Retrieved on 15 October 2021. Available at DOI: [10.12968/bjon.2018.27.18.1050](https://doi.org/10.12968/bjon.2018.27.18.1050)

Taylor, C. 2017. Importance of nutrition in preventing and treating pressure ulcers. Retrieved on 28 March 2023. Available at DOI: [10.7748/nop.2017.e910](https://doi.org/10.7748/nop.2017.e910)

Nursing home abuse centre protecting our seniors. 2019. Bedsore causes in nursing homes. Retrieved on 15 October 2021. Available at <https://www.nursinghomeabusecenter.com/nursing-home-injuries/bedsores/causes/>



Tekijä: - Arpana Adhikari

LAB Ammattikorkeakoulun sairaanhoitajaopiskelija

Appendix 3. Cover letter

I am Arpana Adhikari, final year nursing student at LAB University of Applied Sciences. I study in English medium. My thesis topic is one of the emerging health problems in health care sector. I am conducting thesis in co-operation with elderly home care (Attendo Varisto). I am preparing poster for the prevention of pressure ulcers.

I am collecting feedbacks from the nurses for the purpose of improving the poster. You could contribute valuable time by giving feedbacks through answering the questions. The questions are in likert scale as well as open ended questions. There are six likert scale questions and three opened-ended questions.

It could take 10-15 minutes to go through the poster and answer the questions. All the answered received will be handled confidentially. No personal data will be collected. The answered received will be disposed properly and safely. The poster can be used by the nurses in the prevention of pressure ulcers in elderly home care.

I would like to thank in advance for giving valuable time and answering the questions. The valuable feedbacks could help lot in making more effective and attractive poster. Any queries concerning thesis, can contact author through email.

Thank you for participating.

Sincerely,

Arpana Adhikari

Appendix 4. Poster evaluation Questionnaire

Evaluate the below statements related to poster in the scale of 1-5

Instructions: For each statement choose and mark X

1.Strongly Agree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

	1. Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
The poster help in preventing pressure ulcers					
The poster highlights the important measures in preventing pressure ulcers					
The font size is visible					
The colour used in the poster is appropriate					
The poster is well-organized					

The simple Finnish lan- guage used in poster is sim- ple and un- derstandable					
--	--	--	--	--	--

Open-ended questions

1. What must be improved in poster?
2. How did the poster help in the prevention of pressure ulcers? Write in your own words.
3. Which part of the poster is good?