PRESSURE ULCER PREVENTION IN GHANA

- WHAT IS THE NURSES’ KNOWLEDGE?

2011-03-22

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SUMMARY

Background Although Pressure ulcer is common in high and middle income countries it is rarely researched in low income countries. Evidence based interventions of pressure ulcer prevention are developed but the gap between the evidence and the clinical practice is wide.

Aim Describe the nurses’ knowledge about pressure ulcer prevention at a provincial hospital in Ghana.

Design An empirical qualitative approached was used and semi-structured interviews were made with nurses at the Kwahu Governmental Hospital in Atibie, Ghana. A content analysis and a deductive content analysis were used to analyze the material. The evidence based interventions suggested by the North American Nurses Association (NANDA) was used as a theoretical framework.

Result / Conclusion The themes Pressure ulcer prevention and Nurses’ knowledge were found. Most of the evidence based interventions were mentioned by the participants. However, the participants explained massage as a preventive intervention although the evidence advice against massage. The participants did not mention any interventions considering documentation and nutrition. Further the nurses explained that they achieved their knowledge in school by practical demonstrations and examinations. The nurses’ opinion was that their knowledge is enough to prevent pressure ulcers.

Key words: pressure ulcer prevention, knowledge, low-income country, Ghana
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1 INTRODUCTION

When working in medical wards in Sweden the authors have come in contact with a number of patients with pressure ulcers. Through these experiences the authors became interested in pressure ulcer prevention. When studying literature it was found that pressure ulcer is a worldwide problem and that pressure ulcer can lead to serious complications for the patient. In high income countries specially made mattresses are common and a number of guidelines and risk assessment tools have been constructed to improve the nursing care for the patients. Little research is published on the nursing care for pressure ulcer prevention in low income countries. In this study the nurses’ knowledge about prevention of pressure ulcers on a provincial hospital in Ghana will be described based on interviews with registered nurses.

2 BACKGROUND

2.1 Nursing care

International Council of Nurses (ICN) is a federation of national nurses' associations worldwide. ICN is the world's first and largest international organization for health professionals. The purpose of the ICN is to ensure the quality of care for all patients (ICN, 2010a). ICN states that equal care should be given regardless of age, family and community (ICN, 2010b). Socialstyrelsen [SoS], (2005) is the Swedish authority providing guidance for registered nurses in Sweden. They provide guidelines for nurses according to the Holistic approach which includes a vision in which the core of nursing is based in respect for the human, the human rights and the right to life and dignity, not dependent on age, color, gender, culture or illness. Furthermore SoS describes the nurses’ responsibility to show respect for the patients’ autonomy (self-governing) and integrity. The nurses also have a responsibility to inform the patient and to care for the patients’ safety and welfare in nursing. The nurses should update their knowledge and follow the evidence based guidelines that are given (SoS, 2005).
2.1.1 Nursing care in low- and middle-income countries

The gap between evidence based care and practice has been studied in ten low- and middle-income countries, Ghana was one of the included countries. There is a gap between evidence from clinical research and the practical practice. Studies show that there is a bigger possibility of introducing the knowledge from a research to the nurses if the research is published in their own country. It was also showed that the access to internet was considered to have a big influence in whether the evidence based care was being introduced in the clinical practice or not (Guindon et al., 2010).

2.2 Ghana

Ghana is a country in the Western Coast of Africa with a population of 23 million people (World health organization [WHO], 2005). Ghana was earlier a British colony and before independence 1957 it was called the Gold Cost. During the 18th century Ghana was the centre of the Afro-American slave trade. Ghana is today a republic and the country is working towards poverty reduction. After years with good rains, low oil prices, high gold prices and a good cocoa season the economy of Ghana is looking positive (Ghana government portal, 2010). The positive economic development has lead to an increased public investment in the country (WHO, 2005). Ghana is classified amongst the strongest countries in the Sub-Saharan Africa but it is still a country in need of financial support by the World Bank and the International monetary fund (IMF) (Ghana government portal, 2010).

In September 2005 Ghana, along with the United Nations 189 member states adopted the Millennium development goals (MDG’s). The eight MDG’s are derived from the millennium declaration and the aim is to achieve peace and decent standards of living for all men, women and children. The goals are time-bound (and should be achieved in 2015) and measurable and include reduction of poverty and malnutrition, increased gender equality, reduced child mortality and improved maternal health, combating malaria, HIV and Aids and other deceases, ensuring environmental sustainability and promoting global cooperation. Since then Ghana has mainstreamed the MDG’s and included them in several national development strategies. This effort has generated good results and the country is on track of achieving several of the goals. (National Development Planning Commission [NDPC], Government of Ghana and United Nations Development Program [UNDP], 2010).
2.2.1 Health situation in Ghana

In Ghana the life expectancy at birth is 62 years according to WHO (2009). As in many low income countries most of the life year’s loss in Ghana is caused by communicable deceases. The child mortality rate has decreased, most common causes of death among children below five years of age is malaria (26%) followed by prematurity, birth asphyxia and diarrhoea (WHO, 2009).

The health care in Ghana is divided into three major sectors; governmental, mission and private. Health care is a subject of high priority in state finances and was the third biggest expense in the state budget in 2005 (WHO, 2005). One of the factors contributing to the achievement in the MDG’s is the implementation of the National Health Insurance Scheme [NHIS] (NDPC, Government of Ghana and UNDP, 2010). The NHIS was established in 2003 and provides free basic health care for everyone who is connected to it by paying the annual insurance premium, the ones who are not connected has to pay for the health care by them self. In 2009 62% of the Ghanaian population was connected to the insurance, compared to 6.3% in 2005 (National health insurance authority, 2009). This means that most of the Ghanaians’ have access to hospital care. Therefore one is likely to find patients in the hospitals in different conditions including patients with a risk of developing pressure ulcer.

2.3 Pressure ulcers

A common definition of a pressure ulcer is made by the European Pressure Ulcer Advisory Panel [EPUAP] and the American association National Pressure Ulcer Advisory Panel [NPUAP]. It is defined as a localized injury to the skin or the underlying tissue commonly over a boney prominence. The ulcer is a result of pressure or pressure in combination with sheer (EPUAP & NPUAP, 2009). Moreover, EPUAP and NPUAP state that there are a number of contributing factors to the process of developing pressure ulcers. Pressure ulcer is a serious wound that can lead to severe complications for the patient and it increases the susceptibility of infections and sepsis (Papanikolaou, Lyne and Lycett, 2003) if it doesn’t get treated it can lead to amputation (Lindholm, 2003). Because of the serious complications a pressure ulcer can lead to, it is of great importance to prevent the pressure ulcer from developing. Prevention of pressure ulcers has been a goal of nursing care for a long time and research has been made to identify evidenced based guidelines. Efforts have been made to
increase the pressure ulcer prevention but the prevalence of pressure ulcers is still considered to be very high. The prevalence of pressure ulcer in an intensive care setting ranged from 4% in Denmark to 49% in Germany (Shahin, Dassen & Halfens, 2008). At a Dutch nursing home the prevalence of pressure ulcers was reported to be 83.6% (Gunningberg, Lindholm, Carlsson & Sjödén, 2001) and at a hospital in Sweden the incidence of pressure ulcer in patients with hip fracture was 55% (Gunningberg, Lindholm, Carlsson & Sjödén, 2000). In Sweden a study has been made on the nurse staff’s knowledge about pressure ulcer prevention. The result from the study showed that the Swedish guidelines on pressure ulcer prevention and treatment weren’t completely implemented in the clinical practice. The main interventions that the nurses brought up were repositioning, use of lotion, mattresses and cushions for the heels. Interventions that were rarely mentioned were nutritional support, reduction of shear and friction, hygiene, skin moisture and patient education. The researchers point out the need of improvement in pressure ulcer prevention in Sweden (Gunningberg et al, 2001). There is also a lack of documentation in pressure ulcer prevention and risk assessment among the Swedish nurses (Gunningberg et al, 2000). Studies in Germany have also showed that the nurses in Germany use massage as pressure ulcer prevention although the guidelines states that massage should be avoided (Shahin, Dassen & Halfens, 2009).

Little research has been published about pressure ulcers in low-income countries but Guimaraes and Mann (2003), states that the problem with pressure ulcers is more critical in developing countries because of the lack of access to medical equipment.

2.4 Theoretical framework

The result of this study describes the nurses’ knowledge about pressure ulcer prevention. To be able to discuss the nurses’ knowledge the result will be compared against evidence based recommended interventions for pressure ulcer prevention. Classified Nursing Interventions [NIC] is a part of the North American Nursing Diagnosis Associations [NANDA] (Johnson, 2005) and will be used as a theoretical framework.

2.4.1 NANDA-International

North American Nursing Diagnosis Association (NANDA) was founded in 1982 in order to create a common nursing language for nurses in the US and Canada by using standardized diagnoses. In 2002 the organization became NANDA-International [NANDA-I] in order to
expand the language of standardized diagnoses, making the knowledge worldwide. The purpose of the association is to refine and spread the knowledge of a terminology which accurately reflects the nurses’ clinical knowledge. Furthermore the vision is to ensure patient safety through promoting evidence based care through (NANDA-I, 2010). The instrument helps the care givers to diagnose the patients by using the already written diagnoses by NANDA. The diagnoses are then followed by a number of interventions that should be done for the patient. The interventions are called Classified Nursing Interventions (see appendix 1).

Patients with a risk of developing pressure ulcers have the nursing diagnose *risk for impaired skin integrity*, domain 11: safety/ protection, class 2: Physical injury (Johnson, 2005). According to Johnson the risk for pressure ulcers should be determined using a standardized risk assessment tool. A number of such tools, for example Braden scale, Norton scale, and the modified Norton scale, are described in literature (Lindgren, Unosson, Krantz, & Ek, 2001). Braden scale is one of the most accepted of these tools. The scale is built on six parameters; Sensory perception, Moisture, Activity, Mobility, Nutrition and Friction and Shear. These are all factors that influence the patients’ risk of developing a pressure ulcer and should therefore be identified and taken in consideration when nursing the patients (Braden & Bergstrom, 1988).

According to Johnson (2005) the diagnose *risk for impaired skin integrity* should be followed by a number of Classified Nursing Interventions (NIC). One of these NIC- interventions is *pressure ulcer prevention* defined as “prevention of pressure ulcers for an individual at high risk for developing them” (Johnson, 2005 s. 660). *Pressure ulcer prevention* is followed by 30 named preventing interventions that should be done for this patient (Johnson, 2005). In this study the 30 NIC - Interventions will help the researchers to see similarities and differences between the evidence based knowledge about pressure ulcer prevention and the knowledge that the nurses at the Kwahu governmental hospital in Ghana possesses.
1 THE PROBLEM AREA

Pressure ulcer prevention is considered to be an essential part in nursing care in high income countries but is rarely researched in low income countries. Evidence based instruments has been constructed to increase the nursing care for pressure ulcer prevention. According to studies there is a gap between the research and the theoretical practice especially in low and middle income countries.

2 AIM

The aim of the study is to describe the nurses’ knowledge about pressure ulcer prevention in a provincial hospital in Ghana.

4.1 The questions asked

What is the nurses’ knowledge about preventing interventions of pressure ulcer?
What is the nurses’ knowledge about identifying the risks for pressure ulcer?
How did the nurses achieve their knowledge?
What is the nurses’ opinion about their achieved knowledge in preventing pressure ulcer?

3 DESIGN

5.1 Design

The study is made with a descriptive empirical qualitative approach. Semi-structured interviews were used to identify the nurses’ knowledge about pressure ulcer prevention through their own spoken words. A content analysis and a deductive content analysis were used to analyze the material. According to Mayring (2000) a deductive approach is used to connect the material with a theory.

5.2 Access to the field

The researchers got access to the field through an exchange program with the Red Cross University Collage and the Midwifery Nurses Training School. The Midwifery Nurses
Training School is located next to the Kwahu Governmental Hospital and the two institutions have a good relation. Before arriving to Ghana an introduction letter was sent with information about the aim of the study and a personal introduction of the researchers. A letter with the request of performing the study was sent by the principal at the Midwifery Nurses Training School to the Medical superintendent at the Kwahu Governmental Hospital. The study was accepted and permission was sent to the matron of the hospital. The researchers explained the aim of the study and the matron recommended suitable wards for the study performed. The matron introduced the researchers and the study to the staff and the nurse in charge at the wards.

5.3 Selection

Polit and Beck (2010) describes the logic of qualitative convenience sampling as choosing the informants available that are most likely to be an information rich data source for the study. According to Polit and Beck the respondents’ trust in the researchers has impact on their will to talk freely in the interviews. In this study the researchers did a clinical practice for 17 days at the wards in order to blend in and connect to the staff. During this period the researchers helped the nurses in their daily work, dressed in their nurses’ uniforms. The clinical practice served as a connection phase which, according to Polit and Beck helps to find respondents and incorporate a deeper trust. During the connection phase the researchers came in contact with several nurses. The nurses that the researchers established a good communication with were verbally asked to participate in the study. Gillham (2008) explains the importance of telling the participants about the subject of the interviews so that the participants can decide whether they wanted to participate or not. The nurses were given verbal information about the aim of the study and they were also given verbal information about the recording of the interviews. If the nurse agreed on doing the interview the researcher and the nurse decided on when and where to do the interview and an appointment was set.

5.3.1 Inclusion criteria

Inclusion criteria for the participants were a completed nursing education of minimum of two years and an ability to speak and understand English. Furthermore the participants had to work at the hospital.
5.3.2 The asked nurses

In total eleven nurses were asked to take part in the study. Seven nurses participated and four declined. Three of the nurses were too busy at the ward to partake in an interview and one expressed she did not wish to partake. Out of the seven nurses who approved to be interviewed, four approved with the condition that they could be interviewed in pairs. Thus, seven nurses participated in a total of five interviews.

5.3.3 The participants

The participants were between 24 and 54 years of age, two men and five women. Three had work experience of about one year, two had worked for about five years and two had work experience of more than 30 years. Four of the participants worked at the female ward and three worked at the male ward.

5.4 Data collection

5.4.1 Semi-structured interviews

Semi-structured interviews are based on pre-made questions which helps the researcher to keep the focus on the aim. Polit & Beck (2010) describes the semi-structured interview as an interview technique where the researcher has the pre-made questions as a help guide but where the respondent has the opportunity to talk freely about the topics.

5.4.2 The interviews

To build up a trust between the respondent and the researcher each interview was made by only one researcher. As the researchers had connected with different nurses during the connecting phase, the researchers considered it suitable to do the interviews separately. Five semi-structured interviews were recorded with seven registered nurses, each of them between 15 and 25 minutes. Kvale and Brinkman (2009) describe how the recording of the interview can prevent the respondent from talking relaxed and unstressed and how the respondent might give you meaningful data after the recording. In three of the interviews the participants’ continued to speak after the tape had been switched off. In those cases the tape was switched on again and the informants were asked to repeat the information. As the term “pressure sore” is commonly used at the wards it was used synonymously with the term “pressure ulcer” in the interviews.
When performing the interview the interviewers followed the five steps explained by Gillham (2008): Preparation phase, Initial contact, Orientation phase, Substantial phase and the finishing phase.

*Preparation phase* is based on the preparation of the interview. An interview guide was constructed by the researchers (appendix 2). The questions in the interview guide were separated to different subjects. The semi-structured interviews were built on follow up questions that could be asked to the participant if needed. The follow up questions was questions that are supporting and searching for more understanding and further explanation from the participant. Before starting the interviews the researchers asked nurses at the ward briefly about pressure ulcer prevention to see if they understood the question. The researchers built up an understanding of the knowledge that the nurses possessed. It was also found that the nurses used the concept “pressure sore” instead of “pressure ulcer”. The researchers made sure that time and place was set with the participants and information about recording and the estimated time length for the interview was given to the participants. The researchers were wearing their hospital clothes and tried their best to look decent to gain the confident of the respondent. The recorder was controlled before the interview and new batteries were prepared. The researchers practiced interviewing on each other before performing the interviews on the participants. The researchers had a well prepared interview guide and a recorder during the interviews, these supporting tools helped the researcher to feel comfortable and to be able to concentrate on listening to what the respondent was saying. It is important to have a comfortable environment with no disturbance where the participants should feel relaxed. Because of the participants’ limited time schedule, all the interviews took place on the wards with the nurses on service. All of the participants were asked to do the interviews in separate rooms. The three participants who were interviewed alone with the researcher agreed to do so and those interviews took place in a separated dressing room at the ward where the researcher and the participant had the possibility to sit next to each other at a patient bed in a comfortable environment. Unlike them, the participants who were interviewed in pairs required to do the interviews at the “nurses’ station”. The “nurses’ station” was located at the end of the ward. No walls separated the station from the patients and therefore the nurses were able to have supervision over the patients while being interviewed. Thus, the
interviewers and participants had an opportunity to sit down and do the interviews without disturbance (Gillham, 2008).

*Initial contact* is based on a personal presentation of the researcher. The researcher in this study presented herself and explained the reason to her stay at the Hospital.

*Orientation phase* is the phase where the participant is introduced in to the study. The researcher explained the study and the aim of the study and the participants were given time to ask questions.

*Substantial phase* is the phase when the material for the study is being collected. The interviews were based on pre made questions which were open and based on the questions asked in the aim of the study. It is important to motivate and to show the participants appreciation. The researchers encouraged the participants by telling them how good they were doing and asked for further explanations and examples on what they were saying. The follow up questions “Why?” and “How?” were asked to clarify what the respondent meant and to decrease the risk of misunderstandings. The purpose of this is that the participant should lead the interview and the researcher should only be a helper (Gillham, 2008).

*Finishing phase* is supposed to round off the interview. The researcher summarized what the participant had talked about in the interview. The summary was made to make sure that the researcher had understood everything correctly and to assure that nothing from the interview guide had been left out and then the participant was asked if she/he had something else to add.

### 5.6 Data analysis

The recorded interviews were transcribed verbatim by the two researchers. Polit and Beck (2008) stresses the importance of having the best possible data before starting the analysis. The interviews were transcribed individually by the researchers, and then listened through by the same person. As a final step the interviews was listened through by the other researcher. This was made to avoid common transcription errors described by Polit and Beck (2008) such as “fixing data” by removing non-verbal sounds, mishearing and other faults that change the meaning of the data.
In this study the researchers are inspired by two methods of content analysis when analyzing the transcribed interviews. To get an overview of the material a content analysis described by Pilhammar Andersson (1996) was used to construct meaning units and codes. Further the analysis is inspired by a direct content analysis described by Hsieh and Shannon (2005). Hsieh and Shannon describe the direct content analysis as a deductive theory where the material is validated towards a theoretical framework. In this study the NIC-interventions were used as the framework. The NIC-interventions were sorted into categories based on their likeliness and differences. The constructed categories were; Pressure, Mobilization, Friction and shear, Moisture, Cleaning, Massage, Patient education, Caregiver education, Risk patients, Risk areas, Documentation and Nutrition. Out of these categories the theme “Pressure ulcer prevention” was constructed. According to Hsieh and Shannon a direct content analysis is based on a theoretical framework which assists the researchers in creating categories. These pre-made categories are directive when finding meaning units during analysis of the material (Hsieh & Shannon, 2005). In this study words and sentences which reflected on the aim and the pre-made categories from the framework were identified and divided into meaning units. Every meaning unit was coded according to the content they represented.
The transcribed data in this study was analyzed by the researchers in three phases described by Polit and Beck (2008);

1. In the first phase the transcript data was read through by the researchers to create an acquaintance with the data.

2. According to Polit and Beck (2008) the transcribed data should be analyzed in the second phase using a method of analysis. In this study the analysis was inspired by the content analysis described by Pilhammar Andersson (1996) and the direct content analysis described by Hsieh and Shannon (2005).

- In order to find a similar way to analyze the material the researchers analyzed a part of the first interview together.

- The rest of the interviews were analyzed individually with an opportunity to discuss any doubts with the other researcher.

- After finishing the first version of the analysis it was read through by the same researcher who performed the analysis. Any uncertainties were reconstructed after discussion with the other researcher.

- Further the researchers read through all the meaning units, codes and categories together. The last uncertainties were reconstructed.
Depending on the meaning the codes represented they were categorized in two different ways:

- During the analysis the codes that represented a category constructed out of the NIC-interventions was matched with the suitable pre-made made category directly when the code was constructed.

- The codes and the categories were then relooked at by the two researchers together. This was made to make sure that the codes were matched into the suitable category.

- One code was not allowed to fit into more than one category. Codes which represented more than one category were relooked at. The code was then broken down to new codes specific to the content of each category.

- The codes which did not matched with any of the pre-made categories were compared with each other to find likeliness and differences and sorted into new categories. These categories were named out of the content they represented. Polit and Beck (2008) describes how new categories can be constructed if codes that are representing the aim cannot be matched in any of the pre-made categories when using already constructed categories during the analysis.

- The categories were named out of the meaning of the codes.

- The categories reflected the two questions asked in the aim about nurses’ opinion about their knowledge and how they achieved their knowledge. Therefore the theme “Nurses knowledge” was constructed.

- One code was not allowed to fit into more than one category. Codes which represented more than one category were relooked at. The code was then broken down to new codes specific to the content of each category.
- Codes which did not match the aim and the questions asked were eliminated.
- During the whole analysis the researchers compared the constructed themes, categories and codes with the transcribed data to assure they represented the meaning

3. In the third phase the text was reconstructed as a whole. In every category the researchers looked at the codes and in some cases the meaning units. This was made to find the meaning of every category. The meaning of every category was then presented with a text in the result.

Table 1. Example of the process of the analysis

<table>
<thead>
<tr>
<th>TRANSCRIBED DATA FROM THE INTERVIEWS</th>
<th>CODE</th>
<th>CATEGORIE</th>
<th>THEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>P: What I know about pressure sores or pressure ulcers is that…they mostly …(short pause) appear at the bony prominences...</td>
<td>Appear at bony prominences</td>
<td>Risk areas</td>
<td>PRESSURE ULCER PREVENTION</td>
</tr>
<tr>
<td>I: Yea the bony…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P: Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I:…Areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P: Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P: eeee… and where there is friction...</td>
<td>Appear where there is friction and shear</td>
<td>Friction and shear</td>
<td>PRESSURE ULCER PREVENTION</td>
</tr>
<tr>
<td>I: Yea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P: and then maybe sheering of and forth between.. the patient’s body, and then the bed…</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 ETHICAL CONSIDERATIONS

According to Polit and Beck (2010) it is of importance to give the participants an introduction to the aim to eliminate misgivings and doubts about the study. Polit and Beck also stresses the importance of asking for permission to use the participants’ words in the study. In this study information about the recording was given to the respondents and the researchers asked the respondents for permission to use the interviews as data for the study. Information about the aim of the study was given verbally and the respondents were informed about the possibility to drop off from the study at any time without explaining areas. The participants were assured that their identity could not be identified in the study.
7 RESULT

The result is presented with a summary of each theme and their categories. Every category is presented with an explaining text that is based on the codes. Quotations from the codes are presented in the result as an example of what the respondents are saying in each category. The NIC-interventions in each category are listed together with the result. In each category the researches have looked at the codes to see from how many of the interviews the categories are constructed. This has been made to evaluate the strength of each category.

Table 2. Overview of themes and categories

<table>
<thead>
<tr>
<th>Categories</th>
<th>PRESSURE ULCER PREVENTION</th>
<th>NURSES KNOWLEDGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td></td>
<td>Knowledge achievement</td>
</tr>
<tr>
<td>Mobilization</td>
<td></td>
<td>Opinion about achieved knowledge</td>
</tr>
<tr>
<td>Friction and shear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moisture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caregiver education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.1 PRESSURE ULCER INTERVENTION

7.1.1 Pressure

The NIC-interventions treating the category Pressure are:

- Turn every 1 or 2 hours, as appropriate.
- Post a turning schedule at the bedside, as appropriate.
- Positioning with pillows to elevate pressure points off the bed.
- Make bed with toe pleats
- Utilize special beds and mattresses, as appropriate.
- Avoid use of ‘donut’ type devices in sacral area.
- Apply elbow and heel protectors, as appropriate.
- Facilitate small shifts of body weight frequently.
- Provide trapeze to assist patient in changing weight frequently.
- Monitor foe sources of pressure and friction.
- Use devices in the bed (e.g. sheepskin) that protects the individual

In the category Pressure it is explained why pressure leads to pressure ulcers and what interventions are performed to reduce pressure. In all of the interviews it was mentioned that pressure leads to pressure sores, and that it therefore is of importance to relieve the pressure, especially on bony prominences. Four of the participants stated that the sore is created because pressure impairs circulation and two participants explained it to be because reduced blood supply leads to tissue necrosis or, as exemplified by the codes;

"Impaired blood supply leads to cell death, tissue necrosis and pressure sores"

"Change position to allow blood flow"

All of the participants stressed the importance of regularly changing the patients’ position. Further, in all of the interviews it could be seen that turning the risk patients’ position or changing the position of the risk patients should be done every two to four hourly. One of the
participants said that it depended on how busy the ward was and one participant said that unconscious patients should be turned every 30 minutes. One participant also talked about supporting the new position with pillows in order to maintain the position of the patient. One of the participants explained it by saying;

“Support with pillows”

One of the participants mentioned the airings as an intervention to relieve the pressure on bony prominences. The same participant also mentioned that when they had no access to airings they improvised through forming an air ring with a towel to arise the area around bony prominences, relieving the pressure on it. The same participant also mentioned the use of specially made mattresses as pressure relieve.

7.1.2 Mobilization

The NIC-interventions treating the category Mobilization are;
- Monitor patients mobility and activity
- Provide trapeze to assist patient in changing weight frequently

In four of the interviews mobilization was mentioned as a part of the nursing care for pressure sore prevention. In one of the interviews the participants pointed out the increased risk of developing pressure sore when the patient is lying in bed for a long time and in four of the interviews the participants talked about the importance of re-establishing the movement. One participant also explained how they exercise the patients to maintain the muscle tonus and the nerves function.

“Massaging the limbs and moving the joints”

“Stay in bed means risk”

“Exercise preserves muscle tonus and stimulates the nerves”

In one of the interviews the participants talked about CVA (cerebral vascular accident) patients as a risk patient because the patient can’t move. The participant discusses the importance of re-establishing movement on these patients with help of physiotherapy and medication to avoid pressure sore.
“Re-establish movement at CVA patients by medication and physiotherapy”

7.1.3 Friction and shear

The NIC-interventions treating the category Friction and Shear are:

- Turn with care (e.g. avoid shearing) to prevent injury to fragile skin.
- Monitor for sources of pressure and friction.
- Keep bed linen clean, dry and wrinkle free.
- Use devices on the bed (e.g. sheepskin) that protects the individual.

In three of the interviews the participants mention friction and shear as something that increase the risk of developing pressure sore and the participants in the three interviews all mentioned the importance of straighten bed linen. Examples that were given of possible reasons to friction were; crumbs, dirt, food, stones and cruses on the bed linen.

“Long contact with cruses on mattress cause pressure sores”

7.1.4 Moisture

The NIC-interventions treating the category Moisture are:

- Remove excessive moisture on the skin from perception, wound drainage, and fecal or urinary incontinence.
- Apply protective barriers such as cream and moisture-absorbing pads to remove excess moisture, as appropriate.
- Keep bed linen clean, dry and wrinkle free.
- Moisturize dry, unbroken skin.

Moisture was mentioned as a factor that increased the risk of developing pressure ulcers in four of the interviews and a number of interventions to reduce this could be identified. The importance of changing the clothes and bed linen on wet or soiled patients was stressed in three of the interviews. In one of the interviews the importance of reducing the contact with moisture after bed bathing the patient was stressed.
“Dry after bed bath to reduce moisture”

“Protect bed linen from being sour with mackintosh during bed bath”

Further, in all of the interviews the participants mentioned Vaseline as a preventive intervention to reduce the exposure of moisture.

“Vaseline is oily and used as a barrier from moisture”

On the other hand one of the participants described Vaseline as something used to protect skin from being dried out.

“Use Vaseline to keep moisture and avoid dry skin”

The same participant also stressed that the skin should be neither to dry nor to wet and that pressure sores are more common during the dry season.

“Develop sores during dry season”

Besides from Vaseline the use of powder to reduce moisture was mentioned in two of the interviews. By one of the participants it was stressed that Vaseline and powder was not to be used together and the difference in use is showed by the codes.

“Use powder if the patient is incontinent”

“Use Vaseline if the patient is continent”

Incontinence protection was mentioned as a moisture reducing intervention in one of the interviews.

“Use pampers for patient with incontinence”

7.1.5 Cleaning

The NIC-interventions treating the category Cleaning are;

- Avoid hot water and use mild soap when bathing.
- Remove excessive moisture on the skin resulting from perspiration, wound drainage, and fecal or urinary incontinence.
When talking about pressure sore and pressure sore prevention cleaning was mentioned by the participants in all of the interviews. In two of the interviews the participants expressed the importance of cleaning the pressure areas. Another participant mentioned the bony prominences as areas that should be cleaned. Bed bathing was explained in two of the interviews as a procedure where a tray of treatment is used and where the Bed bath is done on patients who can’t bath on their own.

“Bed bathing bedridden patients who can’t bath on their own”

“A tray for pressure sore treating includes; two bowls with hot and cold water, soap, towel, Vaseline, gloves and powder”

In three of the interviews the participants spoke about how they use a sponge to clean the patient with in some cases. One of these participants also explained the importance of mixing the water to a good temperature for the patient so it’s not too cold or too hot.

“Mix hot and cold water to a good temperature for the patient”

In one of the interviews the participants pointed out the Bed bath as an intervention to prevent pressure sore. They also explained the massaging of the pressure areas as a part of the procedure in bed bath.

“After massaging with soap, clean and dry pressure areas”

7.1.6  Massage

The NIC-intervention treating the category massage is;

- Avoid massaging over bony prominences.

Rubbing or massaging pressure areas was mentioned as a preventive intervention in all of the interviews. In four of the interviews it was said that Vaseline should be used when massaging the pressure areas.

“Massage on bony prominences”

Two participants also mentioned that soap could be used to make it easier to massage. When explaining how the massage was made it was described to be in a circular motion in two of the interviews. One of the participants first mentioned that the massage should be made firmly
and then the same participants described it to be made gently. The reason why massage was used as a preventive intervention was explained by two participants and both said it to be because massage increases circulation and that it therefore prevents the pressure sore.

7.1.7  Patient education

The NIC-intervention treating the category Patient education is;
- Encourage the individuals not to smoke and avoid alcohol use.

In three of the interviews educating the patients in pressure ulcer prevention through encouraging the patients to exercise was mentioned. One participant said this could be done by the nurse performing an active exercise for the patient so that the patient, as a next step could do the exercise on his/her own. The same participant would motivate the patient through informing the patient of the risks of him/her not doing the exercise needed. Further a third participant stressed the importance of encouraging patient to mobilize and change positions both in bed and to assume a sitting position.

7.1.8  Caregiver education

The NIC-intervention treating the category Relative education is;
- Instruct family member/care giver on signs of skin breakdown, as appropriate

In three of the interviews educating the relatives about pressure ulcer was suggested as an intervention. In one of the interviews it was said that the relatives should be educated so that they could care for the patient after discharge.

“Relatives practice care on the ward to be able to perform it after discharge”

According to the same participant this should be done by educating and supervising the relatives when they perform care on the patient. Another participant stated that

“Relatives are allowed to be by the side of the patient”

In a third interview educating and involving relative was mentioned as a resource especially when it came to exercise
“Educate relatives to exercise the patient”

The same participant also stated that it was important to educate the relatives of the risk
patients to recognize signs of pressure sores.

“Educate relatives to inform nurse of signs of pressure sore”

7.1.9 Risk patients

The NIC-intervention treating the category Risk patient is;
- Use an established risk assessment tool to monitor individual’s risk factors (e.g. Braden
scale).

All of the participants talked about risk patients. One of the participants described the
assessing of risk patients as a way of looking at the patient’s condition and that they don’t use
risk assessment guidelines.

“Assessing risk trough looking at patient condition”

“Don’t use risk assessment guidelines”

The participants mentioned patients who are at risk of developing pressure sores as patients
who are; Bed ridden, Unconscious, Immobile, Obese, Altered, Seriously ill, Severely
emaciated and patients who cannot do active exercise. The participants also explained risk
patients as patients who have; CVA, HIV, Old age, Fractures, Hemiplegia, Low food intake,
Cellulites and Patient who can’t move their limbs. The participants also explained why these
factors are risk factors;

“Fracture patient who don’t move are at risk”

“Obese patient are in a risk because they can’t exercise and can’t move in bed”

“Severely emaciated patients r.t. low food intake, are at risk”

7.1.10 Risk areas

The NIC-interventions treating the category Pressure areas are;
- Monitor any reddened areas closely
- Inspect skin over bony prominences and other pressure points when repositioning at least daily.
- Utilize methods of monitoring skin.

In four of the interviews the participants talked about pressure areas as a risk area of developing pressure sore. Areas that are mentioned as pressure areas are; foot, ankle, the back, shoulder, buttocks, elbow, heel, occipital, and the sacral region. In two of the interviews the participants explained pressure areas as the bony prominences and another participant explains the areas as;

“Pressure areas are where skin lies over bony parts”

The signs of pressure sores are explained by one participant as redness and warmth.

“Redness and warmth on bony prominences are signs of pressure sore

7.2 Non-mentioned categories

The participants didn’t mention any of the NIC-Interventions treating the categories Documentation and Nutrition. Therefore these categories were listed as non-mentioned categories.

7.2.1 Documentation

The NIC-interventions treating the category Documentation are;
- Document any previous incidents of pressure ulcer formation
- Document skin status on admission daily
- Document weight and changes in weight
- Post a turning schedule at the bedside, as appropriate.

7.2.1 Nutrition

The NIC-interventions treating the category Nutrition are;
- Ensure adequate dietary intake, especially protein, vitamin B and C, iron and calories using supplements, as appropriate
- Assist individuals in maintaining a healthy weight
7.3 NURSES' KNOWLEDGE

7.3.1 Knowledge achievement

In four of the interviews the participants explained that the theoretical knowledge was given in school. One of the participants explained that a nursing book was used. In three of the interviews the participants also spoke about the practical teaching in form of demonstrations and practice on dummies. The theoretical knowledge that is given in school is being examined by supervisors in a practical examination on the ward.

“Practical exams on the wards on what has been taught during the semester”

In one of the interviews the participant brought up the fact that they apply their theoretical knowledge at the ward but that they also acquire additional knowledge on the ward by learning from senior nurses and getting practical experience. Another participant said that he keeps on learning and he encourages to upgrade the knowledge by solving more in the ward and to search for more updates on the internet.

“Keep on learning, upgrade your knowledge by using the web side”

In two of the interviews the participants mentioned that they don’t use standardized guidelines for prevention. Another participant said that they don’t use risk assessment guidelines and treatment guidelines but that some intervention guidelines are used, although the participant couldn’t explain what kind of guidelines this was.

“Don’t use risk assessment guidelines”

“Don’t use treatment guidelines”

“Some intervention guidelines are used”

7.3.2 Opinions about achieved knowledge

In three of the interviews the participants considered their knowledge about pressure sore prevention to be enough. In one of the interviews the participants mentioned the low incidence of pressure sore development on the ward as a reason to why the knowledge is enough.

“Participant considers knowledge to be enough because patient don’t
develop pressure sore at the ward”

One participant pointed out that he doesn’t consider himself to be perfect and that he keeps on learning.

“Participant considers himself not to be 100% perfect and keeps on learning”

Another participant mentioned that that the examinations in school used to encourage her to study. The same participants considered demonstration and practical practise to be good because it makes you remember what you have learned.

“Examinations encourages to read more”

“Become a good nurse by getting knowledge trough reading and doing”

“If thought without demonstration you easily forget”

The same participant also considered it good to give guidelines because it helps you to do the right thing.

“Guidelines help to remind what to do”

“Without guidelines mistakes can be made”

8 DISCUSSION

8.1 Method discussion

8.1.1 Trustworthiness

Polit and Beck (2008) describes Lincoln and Gubas framework for developing the trustworthiness in a qualitative research. The criteria that should be taken into consideration is; credibility, dependability, conformability and transferability.

Credibility refers to confidence of the truth of the data and a central part is to carry out the study in a way which enhances the believability of the study. Further it is central that the believability is maintained and demonstrated to the external readers (Polit & Beck, 2008). In order to maintain the believability of the study an evaluation of the strength of each category has been made. The researchers have counted from how many of the interviews the categories
are constructed. When doing this the researchers have chosen to count the number of interviews and not the number of participants. This was done because two of the interviews were held with two nurses together. The nurses complemented each other in the interviews and therefore each interview is counted as one source of information. The request of making the interviews together was a condition for the respondents to participate in the study. As stressed by Gillham (2008) it is of importance to make the participants feel as relaxed and conformable as possible during the interview, not to restrain the participant from talking freely about the subject. Therefore the researchers found it reasonable to accept making the interviews in pairs.

Although both documentation and nutrition are important interventions in pressure ulcer prevention according to NIC, the nurses in this study did not mention the subjects at all. It is therefore motivated to discuss whether the method or the interview guide was designed in a way which restrained the participants from bringing up the subjects. No questions about documentation or nutrition were asked during the interviews. The reason for that was that the researchers could not find a way of mentioning the topics without affecting the result by reminding the interviewed nurses that nutrition and documentation is important in relation to pressure ulcers prevention. As the aim of the study is to describe the nurses’ knowledge and not to control which of the NIC – interventions that could be identified, the researches chose not to affect the participants’ answers through leading questions. When designing the questionnaire the researchers found it difficult to ask questions about the subjects without suggesting the importance of them.

*Dependability* is explained by Polit and Beck (2008) who stresses that the achievement of credibility is dependent on weather dependability is achieved or not. Dependability is also called reliability and refers to which extent the study would show the same result if it was repeated under the same conditions.

To increase dependability Gillham (2008) describes several factors. Firstly, the interview guide should be easy to follow. Secondly, it is important to keep the interviews in the same length. In this study the interview guide was detailed and separated into subjects to give more structure to the interviews. Though the interviews were made by two different researchers the same questions were asked and, as showed in the result, the participants mentioned similar interventions when answering the questions. The quality of the recorded data is of great importance to be able to perform a clear transcribed text. Kvale and Brinkmann, (2009)
stresses the importance of listening through the interviews several times, which has been done in this study, to have a material which is as close to the truth as possible when staring the analysis. Further Gillham (2008) stresses the importance of having a clear structure on the analysis to make it easier to repeat. In this study the analysis was inspired by Pilhammar (1996) and Hsieh and Shannon (2005) and categories from the NIC-interventions was created. The procedure of the analysis is clearly explained in every single step. To avoid distorting the material the researchers strictly constructed codes as close to the meaning units as possible. This would probably also increase the dependability as the result is not dependent on which researcher who carries out the analysis.

Conformability refers to whether the data represents the information the participants provided and not the biases or pre understanding of the researcher (Polit & Beck, 2008). As the participants and the researcher’s live in different cultural contexts, assessing the cultural pre understanding was important to avoid affecting the result (Leninger, 2002). Both when making the questionnaires and the analysis the researchers had the NIC - interventions as their pre understanding. Gillham (2008) stresses the importance of being aware of the pre understanding to decrease the risk off affecting the analysis to your profit. Gillham suggests three questions that the researchers should ask themselves frequently when doing the analysis. The questions are: What am I expecting to find? What do I want to find? What do I hope I will not find? These were the questions that the researchers asked to increase the awareness of their own pre understanding. Further the researchers had a preparation phase to get to know the environment in which the study was made which helped to see things from the participants’ point of view (Lenninger, 2002).

Another factor which could have had impact on the result in this study was the language barrier, as the interviews were held in English which is not the maternal language for neither the researchers’ nor the participants. Partly the obstacles from this were avoided through choosing informants that the researchers found it easy to communicate with. The recordings of the interviews gave an opportunity for both of the researchers to listen through the parts and sentences which the researcher had difficulties understanding during the interview. It was therefore possible to make a more thoughtful interpretation during the analysis. Nevertheless, the language barrier could have affected the result as it is not possible to tell whether the participants refrained from telling things because of lack of vocabulary. Likewise, the
selection might not have been the same if the language was not an issue during the interviews, and thereby the result could have been different.

Transferability refers to to which extent the findings can be transferred to other settings or groups. The participants in the study were both men and women, of varying ages and with varying work experience. This means that the result of the nurses’ knowledge reflects both newly graduated nurses with their new education from school as well as it reflects the older nurses’ knowledge from their education and from what they have learned by practical working experience. The spread in the sample concerning these variables increases the transferability. Further, most of categories were mentioned in several of the interviews; out of 14 categories eleven were mentioned in either four or five of the interviews. It is therefore likely that the participants had a similar knowledge as their colleges, despite their difference in work experience, something which might increase the transferability to other similar populations. Thus, as stressed by Polit and Beck (2008) the transferability cannot be fully investigated in the very same study, as it is the researchers’ task to provide enough background information to the readers to enable them to decide whether a transfer to a new context is possible.

8.1.2 Interview Environment

Gillham (2008) stresses the importance of having a comfortable environment with no disturbance where the participants should feel relaxed. In this study all of the nurses were at service when making the interviews and four of the participants made the interviews without any walls separating them from the patients. Making the interviews on the ward while on service could have impact on the participants’ answers in several ways. Firstly, the participants might not have felt they had the time to give a full answer because they were at the risk of being interrupted by work. This could have had impact on the nurses in both groups. Secondly, the ones who were interviewed at the nurses’ station, with no walls separating them from the patients could also have been affected through seeing the patients and therefore having less possibility to focus on the interviews instead of patients at the time of the interviews. There is also a possibility that these respondents avoided mentioning certain things because they did not want the patients to hear, although no difference between the frequencies of answers could be seen between the ones who were interviewed on the ward and
the ones interviewed in separate rooms could be found. Nevertheless it is not possible to eliminate the risk that environmental factors affected the result. Despite this, the researchers found it to be the best solution, as it was the only way to find nurses who were willing to be interviewed. Although the result may have been affected, it is more likely the nurses left out information than adding information they did not have knowledge about. Therefore, as the subject of the study was to describe the knowledge and not a private experience, the risk of influencing the answers was not too high.

8.2 Result discussion

The aim of the study was to describe the nurses’ education about pressure ulcer prevention on a provincial hospital in Ghana. The aim was achieved and the categories; Pressure, Friction and shear, Massage, Cleaning, Moisture, Patient education, Relative education, Mobilization, Pressure areas, Risk patients, representing what subjects/interventions the nurses had knowledge about, was explained by the participants. Further it was found that the nurses consider their knowledge about pressure ulcer prevention to be good. The participants also explain that they achieve their knowledge in school by theory and practice.

8.2.1 Pressure

Pressure relief is something that is mentioned frequently both among the participants in this study as well as among the Swedish nurses (Gunningberg et al, 2001). Both in the interviews and in the NIC–interventions it can be seen that patient should be turned frequently. The NIC-interventions suggests turning every one to two hours. The participants suggest turning every two to four hours and even every 30 minutes if the patient is unconscious but they explain that how often they turn the patients depends on how busy it is on the ward. The use of pillows is mentioned in the NIC-interventions as well as by the participants, but with a little different usage. The NIC-interventions explain the use of pillows to be elevating the pressure areas while the participants explain it to be keeping the patients’ position. Although the participants mention pillows and special made mattresses, it can be seen that the NIC-interventions which are not mentioned by the participants are the ones which require specially designed materials such as toe pleats and heel protectors. However, the participants mention air rings which can be improvised using towels, although this is advised against in the NIC-interventions, at least in sacral area, referred to as “donut – type devices”.
8.2.2 Mobilization

The participants pointed out the meaningfulness of reestablishing the patients’ activity by helping the patient to exercise in bed by moving the joints. The participants also explains physiotherapy and analgesic as important factors when mobilize the patient. The NIC-interventions stress the importance of monitoring the patients’ mobility and activity. The nurses in this study do not point out that they monitor the patient, but they stress the importance of helping the patient maintaining the mobility, which might mean that they also at some stage monitor the patient.

8.2.3 Friction and shear

The participants showed knowledge about keeping bed linen clean and wrinkle free to decrease the risk of developing pressure sore. The NIC-Interventions that the participants did not mention were the interventions treating importance in being careful in moving the patient and use of devices on the mattresses to protect the patient from friction and sheer. The non-mentioning of devices on the bed might be because of the lack of material at the hospital. The NIC-intervention treating the topic devices on mattresses gives sheepskin as an example. The participants mentioned that they had knowledge about mattresses that would decrease the risk of pressure sore but they did not mention the use of sheepskin. Studies have recently been made considering the use of sheepskin and according to Mistiaen, Ament, Francke, Achterberg, Halfens , Huizinga & Post (2010) sheepskin has several benefits and is cost effective. Although there is a larger access to clinical material in Sweden, Friction and shear were rarely mentioned when studying the knowledge among the Swedish nurses (Gunningberg et al, 2001).

8.2.4 Moisture

The importance of reducing moisture is stressed both by the participants and in the NIC-interventions. In the result the participants express that Vaseline is used as a barrier cream from moisture as well as a moisturizing cream for dry skin. According to the NIC –interventions both a barrier cream and a moisturizing cream should be used, depending on the situation. Beeckman, Schoonhoven Verhaeghe, Heyneman and Defloor (2009) evaluates different types of skin products and one of the findings is that both in the use of moisturizing cream and protective barrier cream, petrolatum based cream, such a Vaseline, was the less effective alternative. The most effective moisturizing alternative was a hydro gel cream, and when it
came to protective barriers the use of no-sting barrier film (e.g. cavilon tm) was more effective. However, Beeckman et al. points out that these products often are a more expensive alternative and that the cost effectiveness of the products has not fully been evaluated. Therefore they might not be affordable for most of the Ghanaian population which might explain why the participants only mention Vaseline as a barrier cream. The participants also explained that they used powder to reduce moisture; a subject which is not treated in the NIC-Interventions. Neither can it be found in the NIC-interventions or other literature that pressure ulcers are more common during the dry season, as mentioned by the participants.

8.2.5 Cleaning

The nurses in this study expressed enthusiasm considering cleaning the patients to prevent pressure ulcers. They explained a specific procedure of cleaning which they called bed bath. During this procedure hot and cold water is mixed to a suitable temperature for the patient. This accord well with the NIC-interventions which recommend avoid using hot water when bathing the patient. The participants also mentioned that they scrub and massage the pressure areas with soap as a part of the cleaning procedure. According to EPUAP and NPUAP you should not scrub the areas where there is a risk of pressure ulcer because of the risk of impaired skin integrity (EPUAP & NPUAP, 2009).

8.2.6 Massage

As shown in the result the participants in the study refers to massage as a salient intervention in pressure ulcer prevention, mentioned in all of the interviews. This is considered to be because it increases the circulation. However, the NIC-interventions claims massage to be the opposite. According to Stechmiller, J. (2008) the effects of massage or scrubbing the skin is more harmful than helpful as it increases the exposure to friction and sheer. It causes repetitive friction which can lead to rubbing off the epidermis and thereby friction damage to the tissue in patients with risk for pressure ulcer. Although this is evidence based it is still a gap between the evidence and the clinical practice. In Germany a study recently showed that the nurses at the hospital still performed massaging as a preventing intervention (Shahin, Dassen & Halfens, 2009). Dutch studies has shown that although the Netherland’s guidelines advice against massaging it was shown that in 1991 87,4% used massage as a prevention of pressure ulcers and in 2003 it was still 48,9% who said they performed massaging (Duimel-Peeters, Hulsenboom, Berger, Snoeckx & Halfens, 2006).
8.2.7 Patient education

Both the NIC-interventions and the participants are touching the subject of patient education. The nurses in this study stress the importance of educating the patient in mobilization. Thus the NIC-interventions are not focused on educating the patient to mobilize, presumably because it is assumed that a patient with risk for pressure ulcer is unable to perform exercise by him- or herself. However, According to EPUAP and NUPAP (2009) it is of importance to educate everyone who is involved in the patients’ care in repositioning, including the patient himself. The NIC-intervention “encourage individuals not to smoke and avoid alcohol use” is not at all mentioned by the participants. This might be because all the participants in the study were nurses working on the wards at the hospital, where alcohol use is less common than for example among patients in the primary health care. The number of tobacco users in Ghana is a low as 1.3% for women and 9.9% for men (WHO, 2006) compared to the average of 50% of the men in developing countries (Mackay & Eriksen, 2002). The low percentage of people using tobacco might contribute to why the NIC – intervention was not brought up by the participants in the study.

8.2.8 Caregiver education

The participants explained that relatives were educated in the wards on how to provide care after discharge. According to the participants relatives are educated both in how to mobilize the patient and in how to recognize signs of pressure ulcers. However, the only caregiver education mentioned in the NIC-interventions is treating how the family/caregivers should be instructed in signs of skin break down. Although the participants stress the importance of educating the relatives, education of caregivers are not mentioned. The health situation in Ghana does not provide much nursing on home basis therefore it is the relatives who require knowledge on the subject.

8.2.9 Risk patients

The participants explain that they do not use any risk assessment guidelines, instead they assess if the patients are in a risk of developing pressure ulcers by using common sense and looking at the patients’ condition. Things that they look at are activity, obesity, old age, emaciation and low food intake. According to the NIC-Interventions a risk assessment tool as for example Braden scale should be used to monitor the risk factors (Dochterman & Bulechek, 2004). Braden scale brings up contributing factors as if the patient is able to move
by itself and if the patient has sensory perfection (capable to feel and react on pain and pressure related discomfort) (Ayello & Braden, 2002). The participants in this study show knowledge at looking at the patients’ possibilities to move but they do not mention looking at the patients’ possibility to feel pain and discomfort. If the patient can not feel pain or discomfort the patient might not feel when it is time to move position and therefore they can be in high risk of developing pressure ulcers. Braden scale also stresses the importance of looking patients’ exposedness for moisture, nutrition and friction and shear (Ayello & Braden, 2002) which the nurses mention in the separate categories.

8.2.10 Risk areas

The participants mention the pressure areas as risk areas and they express the importance of inspect these areas by looking for signs as redness and warmth. The NIC-interventions suggest monitoring any reddened areas closely but the NIC-interventions also mentions to use a utilized method when monitoring the skin. One method explained by EPUAP and NPUAP (2009) is to monitor redness that does not go away by pressing on it. No methods of inspecting the skin were explained by the participants but according to EPUAP and NPUAP it can be hard to see signs like this at dark skin. EPUAP and NPUAP therefore suggest looking at differences compared to the rest of the skin.

8.3 Non mentioned interventions

8.3.1 Documentation

Documentation was not at all mentioned when the nurses explained their knowledge about pressure ulcer prevention. According to EPUAP and NPUAP (2009) documentation is an important part in the prevention of pressure ulcers. To be able to follow up on the patient and ensure that the interventions are followed, documentation is necessary. For example EPUAP and NPUAP suggest the use of turning schedule and nutritional schedule, none of these were mentioned by the participants in the study. According to studies on Swedish nurses care of pressure ulcer prevention, documentation was rarely done (Gunningberg et al, 2000). The Ghanaian nurses in this study did not mention anything about if they document what they do for the patient. Maybe they perform documentation, but in the interviews it was not mentioned as knowledge of pressure ulcer prevention.
8.3.1 Nutrition

Braden scale and the NIC-interventions stress the importance of looking at the patients’ normal food intake, ensure adequate dietary intake (Ayello & Braden 2002) and assist individuals in maintaining a healthy weight (Dochterman & Bulechek, 2004). The participants doesn’t mention nutritional interventions as a part in the pressure ulcer prevention although they mention that patients who have a low food intake are in a risk of developing pressure ulcer and they also mention that obese patients are in a risk because they often have difficulties in moving. Perhaps the participants did not think about nutrition as a part of the pressure ulcer prevention as they considered nutrition as a basic part of the nursing care. Another aspect is that most of the relatives take care of the nutritional support of the patients. When Swedish nurses knowledge about pressure ulcer prevention was studied it was found that Nutrition was commonly left out among the Swedish nurses as well (Gunningberg, Lindholm, Carlsson & Sjödén, 2001).

8.4 NURSES’ KNOWLEDGE

8.4.1 Knowledge achievement

The nurses’ knowledge was achieved through theory and practice. The nurses had demonstrations on dummies and examinations on the wards on patients. It was found that no guidelines were used regularly. One of the participants pointed out that they used intervention guidelines but no explanation on what kind of intervention guidelines could be given. The participants also expressed that they thought it was very good to have demonstration on dummies and practical exams on the wards. A study made on nurses in Wales showed that the nurses’ attitudes towards pressure ulcer prevention are related to the skin care that they provide. The study also showed that nurses’ education about pressure ulcer prevention only seems to affect their values when they got some practical experience which verifies the importance of clinical practice and maybe even clinical examinations during the education (Samuriwo, 2010). According to NANDA the Standardized NIC-interventions should be used and according to the NIC-interventions a standardized risk assessment tools should be used to identify risk of the patients. However, according to Moore (2010) the most valued point to carry out effective pressure ulcer prevention is to combine theory with practice when educating nurses to make the nurses feel comfortable with their task. A study made on evidence based pressure ulcer prevention guidelines shows that guidelines increase the knowledge but to implement the knowledge on the ward the nurses requires support to be able
to perform the preventing care (Clarke, Bradley, Whytock, Hansfield, Vanderwal & Gundry, 2005).

8.4.2 Opinion about achieved knowledge

The nurses thought their knowledge was good but one participant was encouraged to keep on learning. None of the participants expressed any lack in their knowledge but they expressed that they thought that guidelines are a good and helps the nurse to remind him- or herself on what to do. Maybe they felt comfortable about their knowledge because they had education in pressure ulcer prevention which involved both theoretical and practical parts. Although one participant pointed out that it is important to keep on learning and that you never are 100% perfect.

8.5 Conclusion

The categories Pressure, Friction and shear, Massage, Cleaning, Moisture, Patient education, Caregiver education, Mobilization, Risk areas and Risk patients were described by the participants as a part of the knowledge they have about pressure ulcer prevention. It was also found that the participants did not show any knowledge about Nutrition and Documentation when discussing pressure ulcer prevention. Further the knowledge the nurses had about some of the categories they mentioned was not accurate towards the NIC-interventions. The nurses did for example explain that they massage the pressure areas although the NIC-interventions recommended avoiding it. When it comes to Patient education the nurses explains how they educate patients to be moving but the only patient education brought up in the NIC-interventions are about recommending patients to avoid use of alcohol and tobacco. Further it was found that the nurses consider their knowledge about pressure ulcer prevention to be good. The participants also explained that they achieve their knowledge in school by theory and practice. Although the Ghanaian nurses showed a very good knowledge in pressure ulcer prevention at most points it can yet be improved as the nurses’ knowledge about pressure ulcer prevention did not fully accord with the evidence based NIC-Interventions.

8.6 Expected importance

Our hope is that the study will bring to light the nurses’ knowledge about prevention of pressure ulcer in patients with or with a risk for pressure ulcers in a low income country. It has been a gap in the research when looking at the knowledge of pressure ulcer prevention in
developing countries and therefore the researchers found it of importance to fill a part of this gap. The researchers have gained a deeper understanding of the nursing care in a provincial hospital in Ghana with the hope to also convey this knowledge to everyone with interest. Further the wish is that the nurses in Ghana will look at this research and discover things to improve, but also to be aware of the fine knowledge they possess.

8.7 Further research

As little research in combination with lack of resources in pressure ulcer prevention is a problem in Ghana it would be interesting to perform a study on the prevalence of risk patients and the incidence of pressure ulcers among them. However, this would preferably be made with a quantitative approach in a larger hospital. Further research considering how well the knowledge is applied on the wards and how the documentation looks like is something that can be researched in the future. This could for example be done through observation of the documentation of risk patients compared with the NANDA to see how many interventions that could be identified and how many patients who had the nursing diagnosis “risk for impaired skin integrity”.
9 REFERENCES


**Pressure ulcer prevention 3540**

**Definition:** preventing of pressure ulcer in an individual with high risk of

**Activities:**

Use an established risk assessment tool to monitor individual’s risk factors (e.g. Braden a scale).

Utilize methods of monitoring skin.

Encourage individuals no to smoke and avoid alcohol use.

Document any previous incidents of pressure ulcer formation

Document weight an changes in weight

Document skin status on admission daily.

Monitor any reddened areas closely.

Remove excessive moisture on the skin resulting from perspiration, wound drainage, and fecal or urinary incontinence.

Apply protective barriers such as cream and moisture-absorbing pads to remove excess moisture, as appropriate

Turn every 1 or 2 hours, as appropriate.

Turn with care (e.g. avoid shearing)to prevent injury to fragile skin.

Post a turning schedule at the bedside, as appropriate.

Inspect skin over bony prominences and other pressure points when repositioning at least daily.

Positioning with pillows to elevate pressure points off the bed.

Avoid massaging over bony prominences.

Keep bed linen clean, dry and wrinkle free.
Make bed with toe pleats.

Utilize specialty beds and mattresses, as appropriate.

Use devices on the bed (e.g. sheepskin) that protects the individual.

Avoid use of "donut" type devices in sacral area.

Moisturize dry, unbroken skin.

Avoid hot water and use mild soap when bathing.

Monitor foe sources of pressure and friction.

Apply elbow and heel protectors, as appropriate

Facilitate small shifts of body weight frequently

Provide trapeze to assist patient in changing weight frequently

Monitor patients mobility and activity

Ensure adequate dietary intake, especially protein, vitamins B and C, iron and calories using supplements, as appropriate

Assist individuals in maintaining a healthy weight

Instruct family member/caregiver on signs of skin breakdown, as appropriate

(Dochterman & Bulechek, 2004 p.583)
INTERVIEW GUIDE

INTRODUCE YOURSELF

GIVE INFORMATION

ASK FOR PERMISSION

THE QUESTIONS

RISKS/ IDENTIFYING RISKS

- From your own experiences, in which group of patients is pressure sore the most common?
- Which kind of patient do you think are in a risk of developing pressure sore?
- Can you describe any signs for these patients?
- What do you think about risk assessment tools?

THE NURSING CARE FOR PREVENT PRESSURE SORE

- Can you describe the nursing care of a patient with a risk for pressure sore?
- How would you prevent a pressure sore from developing on this type of patients?
- What interventions do you do for this patient at the ward?

THE KNOWLEDGE

- How did you get the knowledge about preventing pressure sores?
- What do you think about your knowledge about preventing pressure sore?
- Is there anything in the preventing of pressure sore that you feel like you want to know more about?
- In that case, what would that be?
- What do you think about standardized guidelines?

USE FOLLOW UP QUESTIONS - HOW & - WHY

SUMMARY, ASK FOR QUESTIONS AND FINISHING