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Challenges of treating pressure ulcers

A qualitative study with nurses in Tanzania

Utmaningar med behandling av trycksår

En kvalitativ studie med sjuksköterskor i Tanzania

Abstract

Background: Wounds have existed at all times and have always been feared because of the risk of infection leading to prolonged bed rest, and risk of complications such as amputation and even in some cases death. Pressure ulcers are included in the group of secondary healing wounds, which means that they heal from the inside only after that the wound is filled by granulation tissue. As a nurse one of the main work assignments is to promote health and care by showing professional liability to meet the patient's needs. In this study, the focus will be to describe the challenges for nurses in Tanzania in preventing and early detection of pressure ulcers.

Aim: To describe the challenges for nurses in Tanzania in preventing and early detection of pressure ulcers

Method: A descriptive qualitative design was chosen for this study as the aim was to explore nurses' experiences of preventing and early detection of pressure ulcers. A qualitative design is most suitable when the researcher seeks to understand the phenomenon under study.

Results: There were indeed challenges for the nurses in preventing and early detect pressure ulcers. The findings could be divided into three sub-themes: a) Structural challenges and varying educational level among health care personnel, b) Insufficient resources – challenges and strategies, and c) Patients unable to pay for health care

Discussion: The discussion addressed that education is one of the main strategies for preventing pressure ulcers and is not always a financial issue. Understaffed wards and patients that are not able to pay for healthcare are factors that are ongoing issues at a hospital financed by the government. It also addresses the frustration some nurses expressed towards the problem and often felt helpless concerning patients health.

Keywords: Tanzania, nursing, pressure ulcers, caring.

Sammanfattning

Bakgrund: Sår har existerat genom alla tider och kan innebära en ökad risk för infektion som i sin tur kan leda till utdragna behandlingar för patienten som blir hospitaliserad under en längre period, vilket kan leda till svåra komplikationer. Variationen av sår är stor och läktiden för dessa kan skilja sig åt, där trycksår klassas som andra gradens sår som läker från insidan utåt. Som sjuksköterska är en av arbetsuppgifterna att främja hälsa och omvårdnad samt ha ett självständigt yrkesansvar i sin yrkesutövning för att tillgodose patientens behov. Denna studie fokuserar på att beskriva vilka utmaningar sjuksköterskor i Tanzania har med förebyggande av trycksår.

Syfte: Att beskriva vilka utmaningar sjuksköterskor i Tanzania har med förebyggande av trycksår.

Metod: En kvalitativ studieteknik valdes eftersom syftet är att utforska sjuksköterskornas erfarenhet av trycksår. En kvalitativ studie är lämpligt när forskaren vill förstå fenomenet den undersöker.

Resultat: Resultatet från studien delades upp i ett huvudtema som var sjuksköterskors utmaningar inom klinisk verksamhet, samt tre underteman som bestod av fortsatt utbildning för sjuksköterskor och vårdpersonal, underbemannade avdelningar och patienter som inte kan betala för sjukvården. Sjuksköterskorna upplevde dessa faktorer som den största utmaningen vid förebyggande av trycksår.

Diskussion: Diskussionen lyfte att vidareutbildning för sjuksköterskor och vårdpersonal är en av huvudfaktorerna för att förebygga trycksår och beror inte alltid på finansiella medel. Underbemannade avdelningar och patienter som inte kan betala för sjukvården kommer alltid vara ett problem vid statligt finansierade sjukhus. Sjuksköterskor beskrev en frustration gentemot problemen och kände sig ofta hjälplösa när det handla om patientens hälsa.

Nyckelord: Tanzania, sjuksköterska, trycksår, omvårdnad.

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Introduction

During my nursing education I have learned the importance of postoperative care for patients to promote healing and to avoid complications and long term hospital stay. Pressure ulcers are a common problem that causes great suffering for those who are affected, and contribute to extra costs for society. My interest in the subject arose during my clinical practice when I came in contact with patients who were suffering from pressure ulcers. I noticed the time-consuming work it entailed for health professionals, as well as the physical and mental suffering it meant for the patient. If health care could prevent pressure ulcers or detect them at

an early stage, it would mean a lot for patients at risk for developing these ulcers.

Organization of health care differs between countries. As I have visited Tanzania several times before it felt natural to investigate what kind of methods and standard procedures the Tanzanian health care system utilizes to prevent and treat pressure ulcers.

Background

Tanzania

The country is located at the east African coastline. Dodoma is since 1996 the capital and Dar es-Salaam is the largest city with approximate 5 million inhabitants. The population is approximately 55 million people where about one fourth of the inhabitants live in the cities and the rest of the population in the rural areas (<http://www.ui.se>). The country is a union between the mainland Tanganyika and the island of Zanzibar. Zanzibar has its own government with constitution, government and parliament which make decisions on matters that only concern Zanzibar. In the capital Dodoma the Union Parliament resides which adopts laws that apply throughout Tanzania. In Zanzibar the majority are Muslims, while the mainland population is mainly Christians or practicing tribal religions.

Although Tanzania has experienced relatively stable economic growth in recent years, it is still one of the world's poorest countries where most of the population is working in small-scale agriculture. Significant industries are coal and gold mining, production of sugar, and tourism, including national parks and Mt. Kilimanjaro. However, the country's economy has been characterized by corruption and heavy bureaucracy which has hampered the development of the country. Economic growth has not benefited the entire country where the large cities are growing both in wealth and population, meanwhile rural areas are losing their industries and population which creates segregation and large gaps between the poor and the rich ([ui.se](http://www.ui.se)).

Healthcare organization in Tanzania

Tanzania is faced with major healthcare challenges because of poor infrastructure; low education levels, poverty, and the existence of diseases exacerbate the extent of these challenges. The Millennium Development Goals (MDG) set by the United Nations (UN), to eradicate poverty, mortality, and combat diseases remain important for Tanzania, striving to improve the overall state of wellness of the society. The country has recognized the shortages of health professionals as impacting very negatively on its ability to make progress in achieving health-related MDGs (Mtei, Makawia & Masanja, 2014).

Medical assistance can be hard to find in Tanzania, particularly outside major cities.

Inadequate funding plagues the country's public health care system with the result that the available facilities, staff and resources aren't adequate to accommodate Tanzania's growing population. Residents working in the public sector are automatically signed up for the National Health Insurance Fund (NHIF), which allows access to public healthcare. Because of the low quality of care at government hospitals and clinics, most residents avoid using public healthcare facilities even if they have access via the NHIF. It is common practice for residents to purchase private health insurance (if they can afford) in addition to making the mandatory NHIF contributions, so that they can use private healthcare providers instead. Those who work in the private sector can sign up for the NHIF voluntarily (Baker et al., 2013).

The most common causes of death in Tanzania is neonatal disorders, lower respiratory infections and HIV/AIDS and the average life expectancy of a Tanzanian is 60 years for women and 58 years for men (<https://www.who.int>). Baker et al., (2013) describes that there are about 250 hospitals in the mainland of Tanzania which are divided into twelve different regions all over the country. There is a shortage of both nurses and doctors in the country and the Tanzanian health care system is very strenuous because of the lack of educated health care personnel.

Tanzanian health care education

In Tanzania, the Ministry of Health is responsible for the country's nursing education and includes a four year curriculum where the student gets a bachelor of nursing and a specialist exam in midwifery. The students can also choose to study at the Faculty of Nursing which provides a three year diploma program where the students will get a bachelor of science in nursing degree (<https://www.who.int>). Due to the shortage of health personnel in Tanzania it is relatively easy to find a job for a nurse after graduating. The nurses are educated and prepared to function most effectively in the public sector in primary health care settings, where also most of the jobs are (<https://www.who.int>).

Pressure ulcers

Wounds have existed at all times and have always been feared because of the risk of infection leading to prolonged bed rest, and risk of complications such as amputation and even in some cases death. Pressure ulcers are included in the group of secondary healing wounds, which means that they heal from the inside only after that the wound is filled by granulation tissue. The epithelial cells travel over the newly formed granulation tissue from the edges of the wound and from the middle of the wound (Lindholm, 2003).

The first sign of a pressure ulcer is that the skin is changing color into red, which is

relatively easy to spot on light-skinned people. If the medical staff detects early symptoms of pressure ulcer it could prevent the patient from other complications and decrease the hospital stay and costs. Pressure ulcers can be divided into four different stages where stage one shows intact skin with non-blanchable redness. Stage two indicates a partial thickness loss of dermis presenting as a shallow open ulcer with a red wound bed without slough. At stage three, there is a full thickness tissue loss. It may include slough, undermining and tunneling and visible subcutaneous fat. In the final fourth stage there is full thickness tissue loss with exposed tendon or muscle. Eschar may be presented on some parts of the wound bed which often includes undermining tunneling (Doughty, Ramound & Bonham, 2006; Edsberg et al., 2016). The average hospital treatment cost associated with stage four pressure ulcers and related complications was \$129,248 for hospital-acquired ulcers during one admission, and \$124,327 for community-acquired ulcers over an average of 4 admissions (Brem et al., 2011). Patients who suffer from pressure ulcers indicated that the ulcer and its treatment affected their lives emotionally, mentally, physically and socially. They presented their perspectives on the causes of their pressure ulcer and descriptions of pain, appearance, smell and fluid leakage (Spilsbury et al., 2007).

Nursing and caring

Nursing comprises prevention of illness, promotion of health, caring of physically- and mentally illness and dysfunction, among people of all ages. In caring for sick or unwell individuals, nurses shall assess their health status; support them on the road towards health, recovery or dignified death. Furthermore, nurses shall respect and take care of the patients' autonomy, so that the patients can aim for achieving what they would have done with their strength, knowledge and will, despite their sickness or illness. Nurses shall support individuals in gaining as much independence as possible, as quickly as possible. Nursing profession includes a range of activities from healing individual illness to promote health and policies for a population in the long-term (International Council of Nurses, ICN, n.d.).

Caring is a part of the nursing profession. Caring for individuals is a unique function which contributes to the process towards patients gaining independence, recovery and health (Hinshaw, 2000). A fundamental description of nursing in an adequate health care system is to obtain and aspire to; promote health, prevent illness and caring for ill and disabled people (International Council of Nurses, n.d.). The caring encounter is an encounter between two equal persons where one is a nurse and the other is patient. They encounter in mutuality, in true presence, and both have allowed themselves to be the person they are (Holopainen,

Nyström & Kasén., 2017).

Caring can also be described as caring for humans who are based on knowledge and values that make the nurse see the patient not only for the diagnosis, but as a whole individual. Creating a transpersonal relationship would enrich the relationship between the nurse and patient and is important for the patients' well-being. Being able to see beyond the patient's diagnosis and disease, show respect, empathy and caring are factors that should permeate the nurse work (Watson, 2012). As a nurse it is important with continuing competence education, have relevant up to date knowledge about diseases, evidence based treatment and insight of the ethical principles which are used to handle challenges at work (Gunningberg et al., 2008). Zulkowski, Ayello & Wexler, (2007) describe how nurses certified in wound care demonstrates significantly higher knowledge about pressure ulcers and that there is a relationship between certification and increased topic knowledge.

Nurses often work as an advocate where they defend patients' rights and interests and assure the safety for those who can't advocate for themselves. Nurses ensure that patients' autonomy and self-determination are respected. Serving as the link between patients and the healthcare system, they also contribute to the patient/family decision-making process and speak up when problems go unnoticed or when the patient or family can't or won't address them (Gerber, 2018). For the nurse pressure ulcers is an important affliction to have knowledge about and which has to be taught at universities and hospitals. If the level of knowledge improves among nurses, the risks of developing pressure ulcers could be minimized and also the treatment could improve significantly (Beeckman et al., 2011).

Problem statement

As a nurse it is important to care for the patient in both physical and mental illness and not see only the main reason why the patient is hospitalized, but also the surrounding risk factors that could cause further complications. Initial stages of pressure ulcers are sometimes difficult to detect and as a nurse it is important to have the knowledge and experience to detect pressure ulcers at an early stage to prevent complications. Therefore, it is of interest to describe how the healthcare system in Tanzania is detecting and treating pressure ulcers. This is important because pressure ulcers could cause further complications with increased risk of length-of-stay, which in that case would increase the cost for the patient. Having knowledge after proper education on how to detect, prevent and treat pressure ulcers would decrease the risk of patients suffering from pressure ulcers and also for the nurse to be able to work more effectively. As a nurse it is important with continuing competence education, have relevant up

to date knowledge about diseases, evidence based treatment and insight of the ethical principles which are used to handle challenges at work. A nurse, who is certified in wound care, demonstrates significantly higher knowledge about pressure ulcers and shows that there is a relationship between certification and increased topic knowledge.

Aim

To describe the challenges of detecting and treating pressure ulcers for nurses in Tanzania.

Theoretical framework

Jean Watson developed the theory of human caring that became a well-recognized theory which has been used frequently among healthcare workers (Caruso, Cisar & Pipe, 2008). Watson is focusing on the nurse perspective which is suitable for this study because it describes the nurse's way of approaching the patients. Watson presented her ten caring factors in 1979. Her theoretical thinking is based on existentialism and phenomenology where she describes nursing in a context of human science and art. She wants to highlight the art and beauty of human care. The context is human-centered and metaphysical; Watson believes that people are more than the sum of their parts. Her theory emphasizes that humans and the environment stand in a mutual interplay and she emphasizes that all measures directed at the patient are built on a human - to human process (Wiklund Gustin & Lindwall, 2012). The interventions in Watson's theory of human care are associated with the human care process, in which the nurse and the patient participate fully. To show human care the nurse needs to have knowledge about human behavior, understanding of the needs of the individual, know how to respond to the patient and also be aware of the nurse's own strength and abilities (Watson, 2012). Watson has developed a caring process which is divided into ten factors called the caritas process and has the purpose of being a guideline for nursing. The aim for the caritas process is to develop a deeper understanding towards the caring process and to guide the patient to harmony and live through health. Watson also writes about the theory of transpersonal caring which is the relationship between patient and nurse and requires the nurse to show high human value towards the patient and perceive the patients feelings and subjective life (Watson, 2012).

If the patient feels that the nurse cares about the patient's problems, trust, hope and confidence will develop in the relationship between them. For this to happen, the nurse has to be able to get to know the patient and how she perceives her life situation. It's important for the nurse to have the capability to read between the lines when the patient describes his/her

life situation by interpreting body language, facial expressions, and tone of the voice and distinguish non-verbal questions. The art of human caring is based on the nurse's capability of being able to comprehend the patient feelings and to experience them internally. For every nurse, it is important to become aware of his/her own strengths when developing a relation with the patient. To be able to use Watson's theory, the nurse must be able to have a holistic view regarding the human body, soul and spirit (Watson, 2012). For this study the author uses Watson's theory as a tool to describe the importance of creating a relationship between nurse and patient and how that relationship could benefit both the caring and healing process for the patient.

Method

Design

A descriptive qualitative design was chosen for this study since the aim was to describe what kind of methods and procedures nurses in Tanzania utilize to prevent and treat pressure ulcers. A qualitative study is suitable when the researcher seeks understanding towards a phenomenon. The qualitative study method comes from a hermeneutic paradigm which has a holistic approach where the author wants to understand and describe the participants' lived experiences and encourages the participant to express their experiences in a more open way (Henricson & Billhult, 2017).

Procedure

This study was conducted using a qualitative research method with semi-structured interviews as a way of collecting data. As a data collecting method, interviewing is suitable when the researcher wants to get a better knowledge about the phenomena that is being investigated (Danielsson, 2012). The interviews took place at The Kilimanjaro Christian Medical Centre (KCMC) in Moshi, Tanzania, which is the largest hospital in Moshi with 500-800 inpatients in 630 official beds and treats mainly trauma/emergency medicine, cancer, mental health, and HIV/AIDS. The hospital has also a health care center where residents of Moshi can seek medical care for different conditions. The role of the nurse varies between wards but mainly is to bring medicine to patients, check vital parameters, assist the doctors with various treatments, and to interact with relatives. The author started the research project by contacting the KCMC through e-mail and got in contact with the International Office (IO) which is

responsible for the foreign students. IO decided to give me approval for conducting the study and introduced me to the person who was the director of the nursing service. The director was given a letter of introduction from the author which described the planned study (appendix 3).

The director selected five suitable registered nurses (participants) with experience of caring for patients who suffer from pressure ulcers, had good English skills and accepted to participate in the interview. The participants consisted of four females and one male (median age 33.2, range 25 to 42) years. They had a median work experience of 10 (range 2 to 19) years. Some of the participants had started work as registered nurse directly after school, whereas others had had different jobs before. The interviews took place daytime outside working hours in a small office at the KCMC. The office was private but we often got interfered with by the busy environment around the hospital. The author and participant started the interview with reading and signing the written consent (appendix 2) together so there would be no misunderstandings about how the interview would be conducted.

Data collection

As the study had a qualitative design, a semi-structured interview was conducted with five registered nurses (participants) using the questions in the interview guide (appendix 1) in order to elicit the participants' individual thoughts. The semi-structure method gives the participant the opportunity to talk about their feelings and experiences from work more liberally and at the same time easy for the researcher to direct the conversation towards the subject (Henricson & Billhult, 2012). To assure the integrity of the participants, interviews were conducted in a small office at the hospital and with permission and a signed consent from the participants recorded and kept confidential by the author. The author started the interview with small talk to create a relaxed atmosphere for both the author and participant. For all of the five interviews, the questions were asked in the same order and in the end the participant was asked if he or she wanted to add anything to the interview. The interviews were recorded with two different recording devices to minimize the risk of losing data.

Data analysis

When analyzing the collected data, the author chose to listen to the records multiple times to get a better understanding of the data. Next, the author transcribed the five interviews verbatim and included laughs, pauses and when the participants took a moment to think about the answers. This is important because it brings a deeper understanding to the interview which otherwise could be hard to understand if it was left out from the transcript (Polit & Beck,

2012). For analyzing the material, Granheim and Lundman's (2004) qualitative content analysis method was used, which is a commonly used method for nursing research. When analyzing the interviews, the material was read several times and looked for specific sentences that were suitable for the aim of the study and categorized the participants' sentences into different steps to break it down into a condensed meaning unit to clarify the factual meaning. The meaning units were analyzed to understand the underlying meaning so it could turn the units into codes and divide them into sub-themes which got developed into a main theme and collected in a table (appendix 4). A latent content approach was chosen to get a deeper understanding of the meaning units and was therefore able to understand the underlying content of the codes. Thereafter, the codes that had the same meaning got divided into themes and resulted in three sub-themes and one main theme (appendix 4). The codes were fitted together into the themes because they had the same meaning content.

Ethical considerations

The Research Ethic Committee at the Department of Health Science at Ersta Sköndal Bräcke University College vetted and assessed the study. The participants were informed about the study content in both verbal and written form and received a written consent to sign if they decided to participate in the interview (appendix 2). The consent included an explanation that participation in the interview was voluntary and participants were free to quit the interview at any time without explanation or risk of incurring sanctions. They got informed where the interview would be conducted, that it would be recorded and that the information should be treated with confidentiality. The author took in consideration that the participants were chosen by the hospital and therefore it was a risk that the interview were mandatory, and also that the participants may have been prompted to answer in benefit to the hospital. These factors have to be considered when reading the results and also in an ethical perspective when conducting the interviews and asking the questionnaire.

Results

The results can be summarized into one main theme: Challenges for nurses in preventing and treating pressure ulcers. Three sub-themes were found (Appendix 4):

- Structural challenges and varying educational level among health care personnel
- Insufficient resources – challenges and strategies
- Patients unable to pay for health care

Nurses' challenges in treating pressure ulcers

For nurses in Tanzania there are several types of challenges when treating pressure ulcers and the three most important factors that participants mentioned during the interviews comprise the sub-themes that are the most challenging for the nurses at KCMC hospital.

Structural challenges and varying educational levels among health care personnel
Participants described that at the Kilimanjaro Christian Medical University (KCMU) where the school of nursing conducts their education, the knowledge on pressure ulcers is limited and not taught as a mandatory part of the tutorial. During the interviews the participants often described a stressed environment where focus on pressure ulcers was forgotten. Often workers focused on the main medical reason that kept the patient in hospital and forgot the other work that had to be done.

"I think for the patients that are with us for a long time many nurses put a lot of effort in the main medical problem... and forget the other risk that could cause different problems. Like for example pressure ulcers."

(Participant 2)

As the hospital is associated to the university, the hospital receives a lot of students and also foreign students who shall practice on patients. Participants mention that there is a varying level of knowledge between the students and not enough registered nurses on the wards to observe what kind of treatment the patients receive. There are also medical attendants who are working as a support for the nurses. Participants describe that medical attendants have a basic (but often varying) healthcare education and also often have to shift wards when there is a shortage of staff, so they don't get to learn the basic routines at one ward. The medical attendants sometimes have to shift ward every week.

"The medical attendants are being helpful, I really appreciate their work. But for me when I get new staff every week I don't know how much knowledge these people have about what we do here and what needs to be done. I mean, like... I don't want to have to tell everyone when to do and what to do; I just wish they know that by themselves."

(Participant 3)

Every Tuesday there is a meeting for the healthcare workers with doctors, nurses and medical attendants. This meeting is for educational purposes and brings up problems that concern all medical professions at the hospital, and solutions are being presented. Participants explain how these problems, however, mostly are focused on specific medical issues and are usually on a too advanced level as to suit every staff member because the difference in levels of education. More education concerning the basic problems that occur around patients who are hospitalized for a long period and how to prevent and reduce the risk of further complications such as pressure ulcers is therefore unanimously requested by the participants.

”Instead of a course in advanced medical treatment that almost only the doctors understand, we would want to have basic training for the staff so everyone knows what the standard procedures are at the ward they are working in.”

(Participant 2)

Participants also expressed the importance of education between healthcare staff on how to prevent pressure ulcers to decrease the ulcers on patients. Many participants agreed that even the registered nurses had to be educated and reminded about pressure ulcers and how to prevent them from occurring.

”Sometimes it’s hard to keep track of everything I must do. When the ward is full and we are understaffed it’s easy to forget the important procedures.”

(Participant 2)

Insufficient resources - challenges and strategies

According to the participants, insufficient resources (i.e. understaffing) are a common problem at the hospital wards. The participants describe that in almost every morning meeting there would be one or two healthcare workers absent due to various reasons such as illness, inability to get to work because of disease within the family, etc. This resulted in understaffed and overcrowded wards which stressed the staff so that they only had time to treat the patients for the medical part and could not prioritize the caring part. With constantly new medical attendants and students to supervise, the participants expressed that the working environment was strenuous and they felt that they were not able to give patients the treatment that they were supposed to.

"Some days there would be only two registered nurses at the ward and for me that makes the day very hard and stressful. I have no chance to give the right treatment by myself."

(Participant 1)

Participants described the work environment stressful and that they were always behind in schedule. The patients were mostly receiving the right (medical) treatment, but often caring wasn't even the second priority.

"I think many of the nurses don't have time to do the caring part, or assume that the responsible nurse has already done it. So maybe turning patients is being forgotten."

(Participant 5)

To prevent pressure ulcers some wards were using a scheme for continuously changing the position of the patient in bed (*turning scheme*). This scheme was not used in every ward, so many healthcare workers were not familiar with the system, or didn't have the knowledge how it was practiced

"If I detect a pressure ulcer I want to use the turning scheme at once and expect others to understand how it works. But I guess if no one told them about it, they will not use it."

(Participant 1)

Participants expressed that they would like a greater amount of registered nurses at the wards and also focus on further education along with healthcare workers, so when a ward is understaffed the staff knows that the replacement workers are familiar with the basic routines at the different wards. This would reduce or prevent different complications such as pressure ulcers.

"When we are understaffed we have to trust the new healthcare workers that they know our routines. I don't have time to double check if the work has been done. Then I would never be on schedule and what would the point of taking staff from different wards if I had to do their job again just because I don't trust them."

(Participant 3)

Patients that are unable to pay for treatment

One participant explained that patients at KCMC have to pay for their healthcare and that hospitals often are on a strict budget. Therefore healthcare workers rarely give any treatment until the patient or the relatives are able to make the payment. This complicates a lot of work and the participants express a frustration of not being able to treat the patients properly because no one has paid the hospital bill.

"Patients sometimes stay very long at the ward and that is very expensive for the family. Many do not have enough money for treatment and only pay for what is most necessary. So even if I want to give a specific medicine or make it a routine to clean and change the bandage on a different wound, we can't because no one can pay for it."

(Participant 3)

One participant described a case where a child was brought in by ambulance without any relatives and had severe damages and in critical need of treatment. But because no relatives were present and no one was able to pay, healthcare workers could only stop the critical bleeding but not perform a CT scan on the child's head which clearly had internal bleeding.

"Because we were very busy that evening the child was left unattended for a long period until the machine started to give signal for heart failure. We performed cardiopulmonary resuscitation for almost 30 minutes, but the child could not be saved."

(Participant 4)

The participants describes how pressure ulcers are a low priority on the wards because the patients usually suffer from another main disease and spending money on pressure ulcers are not something relatives want to focus on. Often nurses and doctors doesn't mention or explain that the patient is suffering from pressure ulcer, because the healthcare workers assume that no one is willing to pay for the necessary treatment.

"Sometimes a patient leaves the hospital even if he/she suffers from a pressure ulcer. In worst case it has become infected, and the right thing to do is to keep the patient for treatment. But the family sometimes doesn't understand the problem or want to treat the patient at home instead of paying for treatment at the hospital."

(Participant 5)

A common opinion among the participants was that knowledge and understanding of the importance of preventing and treating pressure ulcers among health care workers, patients and their relatives had to be improved. If this could be implemented patients or relatives might be more willing to pay for the treatment.

"I would say that knowledge about how dangerous pressure ulcers are would make the patients and their relatives to consider paying for the treatment that is necessary to prevent and treat pressure ulcers. I wish we could give treatment without charging the patients. But it is a question about resources and I am afraid that in the end it's always about money."

(Participant 4)

If the relatives got informed about the risk of pressure ulcers as soon as the patient arrived at the ward, the relatives would function as a type of medical attendant with responsibility to prevent pressure ulcers. This would increase the knowledge of pressure ulcers among healthcare workers, patients and relatives. And also help the healthcare workers when there are insufficient resources at the ward. Hopefully it would prevent pressure ulcers and therefore increase the patients' health.

Discussion

Methodical considerations

Because the participants were chosen by the director of nursing, it is uncertain if the participation was voluntary, considering that the interviews were held during daytime but off working hours. Therefore it is out of interest to be aware of this factor when reading the study. Each interview was conducted with one nurse at a time so every participant would be able to share their experience and private thoughts with themselves and me. To give the participants the confidence to talk freely it was important for the author to start the interview with some warm up questions for example asking about how long the participant has been working as a registered nurse, so both the participant and author would lose some nervousness and have a more open minded conversation. I think that the participants might not have felt comfortable conducting the interview without the small talk in the beginning, and I might have missed out on important information about working experience from the participants. It was crucial for me to listen to what the participant had to say without interfering, ask questions or share own opinions (Polit & Beck, 2012). The interviews were conducted in an office at the KCMC daytime, either before or after their shift. I feel that most of the participants were somewhat

stressed during the interview as they wanted to go to work or go home. One may consider if the participation for the research study actually was voluntary or mandatory for the nurses. However, to make the atmosphere more relaxing the participants were offered tea and coffee which reduced the stress and made the conversations more comprehensive.

As the official language in Tanzania is Swahili and the second language, as for me, is English, a language barrier existed between me and the participants. The questions were easy to present and no further explanations were needed. However, for the participants to express themselves in the way they wanted to, they sometimes needed an extra minute to explain in a certain way so I could understand the context and ask follow-up questions. When interviewer and participant comes from different cultures and speak different languages there is a risk of misunderstanding between them, and this could limit the trustworthiness of the results (Brinkmann & Kvale, 2014).

When all five interviews were finished, I transcribed the interviews to later listen through the recordings while following the transcript to correct possible mistakes, for example loss of words or misunderstanding of the interview. I chose to add notes about body language, laughter and pauses to get a deeper meaning of the interviews. These were used during analysis to clarify interview atmosphere and participant intention with certain statements. During the analysis, I read the transcripts multiple times to become familiar with data and again compared it to the recordings to increase the trustworthiness of the analysis. I used an inductive qualitative content analysis to be able to categorize the meanings into themes (Graneheim & Lundman, 2004). To get a deeper understanding of the meanings, I made interpretations using a latent content approach to explore the underlying meaning of the context.

Result discussion

The results indicate that the nurses have knowledge of pressure ulcers, but the knowledge is limited and healthcare workers are in need of further education to prevent and treat pressure ulcers. Pressure ulcers are a global patient concern and are often developed at the hospital and therefore may be considered as caused by the healthcare service. Pressure ulcers are an economic burden for the healthcare system and could lead to longer hospitalization for the patients (Gunningberg, Lindholm, Carlsson & Sjödn, 2008). The results indicate that healthcare workers are in need of further education about how to prevent and treat pressure ulcers. This is in line with the study of Etafa, Fetensa & Ayala (2019) which shows that nurses in several countries have limited knowledge about pressure ulcers. At the medical

university or nursing school, students do not get taught about pressure ulcers to the extent that is necessary. There is also a question about hierarchy among the healthcare workers between students, medical attendants, nurses and doctors. This hierarchy makes it hard for example students to point out pressure ulcers for registered nurses because it is a question about respect towards a person with a higher authority. Watson (2012) emphasizes relationship with patients and nurses because it promotes the healing process. But if the relation between healthcare workers is not good, it may be challenging for healthcare workers to create a good relationship with the patients'. This could lead to untreated wounds because no one addresses the problem.

One suggestion to meet these challenges would be to have the healthcare workers having education and workshops together with each other in order to share experience and knowledge with each other to minimize the stigma of asking another profession for help. Wellings, Gendek & Gallagher (2017) promotes continuing professional development for nurses which provides an engagement for nurses in learning activities, which have the potential to improve patient care. According to Nalle, Wyatt & Myers (2010) the key barriers to participate in continuing nurse education is costs, travel, and time away from work. Collins (2013) and Kamariannaki et al., (2017) mention that continuous nursing education could lead to professional development and would improve the nurse professional service, encourage collegial learning and interaction, create personal benefits and job security and a professional commitment. Professional improvement and development, personal benefits and job security have been found to be the main motivations for nurses to attend continuing education.

Results also show that insufficient resources are a major problem when aiming to prevent and treat pressure ulcers. Moore and Price (2004) and Khamisa, Oldenburg, Peltzer & Ilic (2015) describe that a shortage of staff often creates stressed situations where the nurse has to prioritize acute tasks and thereby pressure ulcer prevention becomes less of a priority. Nurses suffer from poor work conditions such as a high workload, are often associated with burnout and high rates of turnover and can lead to job dissatisfaction and feelings of hopelessness and frustration (Zarea, Negarandeh, Dehghan-Nayeri & Rezaei-Adaryani, 2009). Riemer, Mates, Ryan & Schleder (2015) suggests that a method of decreasing stress is to implement quiet time which means that the lightning at the wards was turned down. Their study showed that nurses' stress decreased with the implementation of quiet time, which consisted of simply turning down the lights, because excessive light results in physiological changes that stimulate the stress response, including the release of cortisol and catecholamine. The environmental change of turning down the lights could explain the physiological decrease in nurses' stress

levels. Watson (2012) also advocated that creating healing environments will be a benefit for both patients and nurses and it's something that would decrease the stress level for nurses. For nurses to be able to deal with stress, different factors for example focusing on the positives, having support from others, completing work and achieving targets are helpful measures that could decrease stress. Being able to say no to new tasks and negotiating modifications of their workloads are also qualifications that promote lower stress level. These suggestions are supported by Shirey, McDaniel, Ebright, Fisher & Doebbeling (2010) which means that those mentioned factors are useful tools for decreasing high stress levels for nurses.

Clinical implication

In many of the Tanzanian hospitals, lack of resources and material could result in patients developing more complications than they had when they arrived at the hospital. This problem reaches wide and could affect both patients who are arriving with a life threatening injury and in need of special treatment, and patients that's been lying in a hospital bed for a long period and developed pressure ulcers. In the case of pressure ulcers there are small adjustments that need to be performed to avoid it, and often it is a shortage of resources and education that causes the problem. This applies to both the industrial countries and the developing countries. To prevent pressure ulcers in the hospital wards, focus could be on education to increase knowledge in the phenomena for both healthcare workers and relatives. This would benefit for the patients' health, improve the nurses' professional status and minimize the risk of pressure ulcers.

Further research

Results of this study show that the nurse in Tanzania has a great challenge of treating pressure ulcers because of insufficient resources, lack of education and the financial perspective. To further investigate treatment of pressure ulcers it would be interesting to see if developed routines for detecting early symptoms, additional education and greater supply of staff could improve the prevention of pressure ulcers for patients. I believe that continued research is necessary to discover the core problem of detecting early signs of pressure ulcers and how the nurses in Tanzania can improve the education to decrease pressure ulcers on patients.

Conclusion

Results in this study show that knowledge and further education for healthcare workers and patients' is essential for reducing and preventing pressure ulcers. When the wards are understaffed, the possibilities of detecting pressure ulcers decreases and the nurses often feel like they are not able to provide appropriate care for the patients. Another risk factor is the financial perspective where patients do not have the resources to pay for healthcare which leads to untreated pressure ulcers. The study's aim was to describe the challenges of detecting and treating pressure ulcers for nurses in Tanzania, and the conclusion is that education among healthcare workers and patients are the main factor that could facilitate detection and prevention of pressure ulcers.

Appendix 1. Interview guide

At first when I meet with the participants for the study I will start to give the same information as they received in beforehand on how the study and interview will be conducted. The participants will be informed that the study is voluntary and that they can choose to cancel the interview at any time without any explanation. I will also inform the participants that the interview will be recorded and all documentation about their age, education and working experience will be treated as confidential.

For how long have you been working as a nurse?

- Can you describe what kind of work you perform at your department?
- What kind of patients do you meet?
- What are the main reasons that they visit the hospital?

How often do you meet patients with pressure ulcers?

- Can you tell me about your routine treatment measures with pressure ulcers?
- How do you usually treat pressure ulcers?
- On some patients redness is an early sign on pressure ulcers. What type of sign are you as a nurse looking for?

Can you describe the most challenging situations in caring for patients with pressure ulcers?

- Could you please tell me about a situation where it went well?
- Could you please tell me about a situation where it did not go well?
- What do you feel is the most important in treating pressure ulcers?

Would you like to add anything before we finish the interview?

Appendix 2. Written consent

Enquiry for you who are a registered nurse at the Kilimanjaro Christian Medical Centre (KCMC) Hospital for participation in a minor field study.

This survey concerns you as a registered nurse at the KCMC Hospital and intends to get a view of the nurse experience in treating patients with pressure ulcers. The aim of the survey is to examine the Tanzanian nurse experience of caring for patients with pressure ulcers. I am asking you if You are willing to participate in this survey which will mean that You will be participating in a recorded interview. The interview will last for approximately 45 minutes and will take place at the KCMC hospital. After the interview it will be transcribed as a part of the procedure. I will not be transcribing any names or personal details that could reveal who has been interviewed.

The interviewer is also the researcher, Tobias Anberlin. The recorded interview will be saved on a USB-stick and kept confidentially. After the conducted interviews I will write a report of the collected data and also delete all collected data on the USB-stick. This report will be available at Ersta Sköndal University College public library for anyone to take part of. Your participation in this survey is voluntarily. You can withdraw from participation at any time without further explanation. If You have any questions about the study, please contact me through the information on the following page. If You are interested in participation We will contact you with further information about time and place for the interview.

Appendix 3. Letter of introduction

Dear Kilimanjaro Christian Medical Centre

My name is Tobias Anberlin and I am a nursing student from Ersta Bräcke Sköndal University College in Stockholm, Sweden. I am about to finish my bachelor in nursing and for

my bachelor thesis I have chosen to do a study about pressure ulcers. The aim of the study is to get a better knowledge on the early symptoms of pressure ulcers and want to investigate what kind of method registered nurses at the Kilimanjaro Christian Medical Centre are using to detect the symptoms. For that I would like to interview four or five registered nurses at KCMC for about 45 minutes and ask them a few questions about their experience from working as a nurse and specifically what kind of experience they are having from pressure ulcers.

My goal is to get a better understanding and knowledge on how the registered nurses at KCMC, Tanzania are working to prevent pressure ulcers, how they detect early symptoms and what kind of treatment they are giving the patients. I will be in Moshi, Tanzania during September and October, and hopefully get a chance to interview some of your registered nurses. It would be an honor for me as a Swedish nursing student to be able to perform the interviews at KCMC and mean a lot for the collaboration between the Tanzanian and Swedish nursing education. I believe that Sweden has a lot to learn from Tanzania on how to prevent pressure ulcers on dark skinned people. I will be arriving to Moshi at the end of august and aim to start the interviews at the first week of September if that's possible for the hospital and the nurses. Please get in contact me or my mentor Med. Dr. Anna Klarare if I can get the opportunity to meet some of the registered nurses and have an interview with them.

Looking forward to hear from you,

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Appendix 4. Meaning units

Meaning units	Condensed meaning units	Themes
“Instead of a course in advanced medical treatment that almost only the doctors	Different education and knowledge between healthcare staff creates	Structural challenges and varying educational level among health care personnel

understand, we would want to have basic training for the staff so everyone knows what the standard procedures are at the ward they are working in.”	obstacles and challenges for staff.	
“Some days there would only be two registered nurses at the ward and for me that makes the day very hard and stressful. I have no chance to give the right treatment by myself”	When there is a shortage of staff the nurses become stressed and feel like they cannot fulfil their working task.	Insufficient resources - challenges and strategies
”Sometimes a patient leaves the hospital even if he/she suffers from a pressure ulcer. In worst case it has become infected, and the right thing to do is to keep the patient for treatment. But the family sometimes doesn’t understand the problem or want to treat the patient at home instead of paying for treatment at the hospital.”	Patients that have an economic insufficiency choose not to treat for example pressure ulcers because they cannot afford it.	Patients unable to pay for health care

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