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Research Article

Supporting Patients with Amputated Lower Limb in Accepting Their New Body Images by Traumatology Nurses of Central Hospital Yaoundé-Cameroon: An Exploratory Study

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Abstract

This study aims at exploring the role of the nurse in supporting patients with the amputated lower limb towards the acceptance of their new body images in the traumatology B unit of the Central Hospital in Yaoundé-Cameroon. The study used a qualitative exploratory design. The study population was made up of eight nurses from the traumatology unit of the central hospital in Yaoundé-Cameroon. Data were collected using a semi-structured interview guide from a purposeful sample of nurses. The saturation level determined the sample size for the study. Data were analyzed using inductive content analysis. The results obtained from this study showed that it is difficult to take care of patients with amputated lower limbs as physical support e.g. hygiene care; wound dressings, pain evaluation and care were outlined by most of the nurses as the main mode of support given to patients. Consideration should be given to non-pharmacological and less invasive surgical interventions for phantom limb pain, as they are associated with less common and less severe side effects. Active listening, reassuring patients, helping relationship and confidence were the main elements of psychological support stated by the nurses. The main challenges nurses encountered in supporting amputated patients were difficult communication and language barrier. The findings from this study proposed that there were many factors to take into account in order to be able to help patients with amputated lower limb: physical and moral pain, the psychological aspect with modification of body image, loss of self-esteem etc... The nurse must demonstrate human and relational qualities and great psychological resistance in order to effectively support the amputated patient on the physical level by providing hygiene and comfort care, dressing; and on the psychological level by questioning the patients about their difficult emotions while being available to listen in order to establish a nursing diagnosis and help the patients to cope with their difficulties.

Keywords

Amputation, Lower Limb, Body Image, Support

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1. Introduction

In the advanced stages of a number of diseases, including diabetes mellitus, peripheral arterial occlusive disease, oncological disorders, trauma, or infection, limb amputation is frequently an unavoidable procedure that has a significant impact on a patient's life [1]. The rate of removals goes from 1.2 to 4.4 per 10.000 occupants in various nations and the larger part is performed on the lower appendage (up to 90%). By 2050, it is possible that these numbers will double [1]. A removal actuates a few restrictions in performing proficient, recreational, and social exercises. It reduces mobility, causes pain, and affects the body's integrity, which in turn lowers quality of life. Patients experience psychological and social effects. Depression, anxiety, and, in severe cases, suicidal ideation are all types of mental health problems. The perception of a person's own body and its appearance is also affected when they lose a body part. Amputation of a lower limb is a surgical procedure required by serious medical conditions like diabetes, trauma, or cancer. It has been portrayed as an occasion generally connected with a few changes in one's very own life, influencing the singular's prosperity, personal satisfaction, and independence. Amputation of a lower limb frequently results in anxiety, depression, body-image anxiety, social discomfort, and other mental health issues. How the individual experiences the amputation and the physical and psychological support provided by the nurses will determine both these outcomes and the process of accepting and adjusting to limb loss [2]. The removal of a lower appendage or limb is a physical, emotional and social challenge for the patient, their family and the nurses expecting to help them. Mobility, the ability to return to work, body image, pain, quality of life, anxiety, and depression have all been shown to be negatively impacted in amputees of the lower limb [3]. A patient experiences a sense of loss and grief when a limb is lost. The process of realizing the loss is the first reaction, followed by the alarm stage and the urge to locate and retrieve the missing limb follows [4]. The person who loses limbs becomes preoccupied with thoughts of how their body has changed. The body no longer appears to be the same after the loss of the limb. The person has a tendency to enviously look at whole, intact people and longs for the world to remain as it is. The individual might try to believe and show outrage toward health services experts [4]. Nurses should know about this connection between body image and loss of a lower limb. The patient's reaction to losing limbs and the resulting change in body image may be minimized by providing guidance and support, which can be physical, psychological, social or emotional [4]. The current study focuses on the role of the nurses in supporting patients with lower limb amputation (LLA) towards the acceptance of a new body image.

1.1. Statement of the Problem

The way a person feels about his/her body image influences interactions and plays a significant role in social and interpersonal relationships is included in the concept of body image. This mental image includes attitudes and perceptions regarding sexuality, functionality, and appearance. A person's perception of how their body image influences social and intimate interactions is also included in this concept, making it possible for it to have a significant impact on a variety of relationships. As a result, the changes in appearance that many people go through as a result of trauma or illness can completely change a person's body image and move them away from their ideal body image [5]. In a similar vein, McRobert [6] stated that a person's inability to adjust to a change in appearance is the root cause of changes in body image. "A series of emotional, perceptual, and psychological reactions" are triggered by these changes in body image. The research carried out by Holzer et al [1] on self-perception in tragically handicapped people, it was found that tragically handicapped people for the most part reveal pessimistic sentiments in regards to their bodies. When a person loses a limb, they may "compare the appearance of his or her body and functional capabilities to those of others," which makes it "difficult for the amputee to have a positive attitude toward his or her body." This may result in a long-term disorder in the person's body experience. According to McRobert [6], the significance of social and family support in the process of adjusting to a changed appearance should be stressed due to the belief that individuals must face a series of confrontations in order to adjust to disfigurement. As a result, there is a need for emotional support, and staff nurses and other healthcare professionals can assist in improving the consequences of this problem. Mental health concerns should be addressed by nurses. Additionally, it is essential that they offer assistance "to encourage patients to confront their injuries and gradually expose disfigurements to the public," as this can have "a very positive effect when helping patients to adjust." A significant portion of the research found that amputation results in a disability that lasts a lifetime for the individual. Because they directly affect the ability to walk, lower limb amputations are significantly more disabling and prevalent than upper limb amputations [7]. It affects an amputee patient's ability to continue activities and their level of independence, which in turn increases the social burden and negatively impacts their body image and depression. Therefore, this study was carried out to investigate the connection between body image and depression levels among amputated patients and motor capabilities for recent lower limb prostheses.

1.2. Significance of the Study

Amputation leads to the absence of three items regarding function, sensation, and body image. It will inevitably lead to a decline in physical capacity, which is likely to significantly affect employment, causing financial difficulties, isolation, and low self-esteem. After amputation, intimate relationships such as marriages are at risk, which is common with repeated failures because of the pain and sufferings. Amputation dis-

turbs the integration of the human body and reduces the quality of life due to reduced mobility, pain, and physical and psychological integrity of patients' affection. Although the economic burden of amputation is significant, nurses have an important role in limiting other costs that result from limb loss, such as long-term disability leading to loss of work and delayed recovery [8]. Comprehensive nursing assessment and appropriate interventions before and after surgery as well as planning for early discharge and community reintegration can help avoid some of these losses.

1.3. Research Questions

1) What is the role of the nurse in the physical support of patients with LLA towards the acceptance of their new body images?
2) How do nurses psychologically support patients with LLA to accept their new body images?

1.4. Objective

1) To explore the role of the nurse in physical support of patients with LLA towards acceptance of their new body image
2) To analyse how nurses psychologically support patients with LLA to accept their new body image

2. Materials and Method

2.1. Study Area

Our study took place at the Central Hospital of Yaoundé (CHY) more precisely in the Traumatology B department. The reasons that led us to choose this study site are as follows:

1) Presence of the traumatology and surgery department B at the CHY.
2) The hospital offers an ideal field of investigation for our work given the statistical data recorded on limb amputations.
3) It is a hospital structure of third reference receiving a cosmopolitan of patients of different socio-economic statuses.

2.2. Study Design

A qualitative exploratory design was used for this study with the inductive content analysis used to get in-depth information on the roles of traumatology nurses in supporting patients with amputated lower limbs towards acceptance of their new body image.

2.3. Sampling and Sample Size Estimation

The study sample consisted of 08 nurses working in the traumatology B department of the Central Hospital Yaoundé - Cameroon. All participants with at least two years' experience in the traumatology B department who agreed to participate in our study were chosen through the purposive sampling method. The saturation level determined the sample size of the study.

2.4. Data Collection Instrument

Data were collected using a semi-structured interview guide from March 2020 to April 2020.

2.5. Data Analysis

The demographic data were analysed using descriptive statistics and the interview data were analysed using inductive content analysis.

2.6. Ethical Considerations

Ethical clearance was obtained from the regional ethical committee for the central region. An authorization letter was obtained from the director of the Central Hospital Yaoundé

Confidentiality, privacy, and anonymity were maintained by ensuring that interviews are completed anonymously so that data cannot be traced back to the respondent.

Participants' written informed consents were obtained, and they were guaranteed that they have no obligation to participate in the research and can withdraw at any time. The electronic data were saved on a hard disk, and only the researcher could have the computer password to ensure confidentiality. The participants were assured that all data will be destroyed after five years.

3. Results

3.1. Participant's Demographic Profile

The analysis of the participants' profiles showed that most of them were females, 6/8 (75%) compared to the male sex that represented only 25% (2/8) of our sample. Looking at the educational level, two had a master's degree, two Bachelor's degrees and four state diploma in nursing. The experience ranged from 3 years to 10 years and the age ranged from 38 to 56 years.

Table 1. *Profile of nurses.*

Variable	Criteria	Frequency	Percentage
Age	30-40	3	37.7%
	41-50	3	37.7%
	> 50	2	25%
Educational	Masters	2	25%

Variable	Criteria	Frequency	Percentage
level	Bachelor	2	25%
	Diploma	4	50%
Gender	Male	2	25%
	Female	6	75%
Experience in traumatology	3-4yrs	2	25%
	5-6yrs	3	37.7%
	>6yrs	3	37.7%

3.2. Physical Support of Patients with Amputated Lower Limbs

The traumatology nurses had diverged opinions on their role in the physical support of amputated patients when it comes to their knowledge on physical support, pain management, wound dressing, and prioritisation of nursing care for amputated patients.

3.2.1. Definition of Physical Support

One category was brought out in the nurses' definition of physical support: *helping the amputated limb patient.*

Helping the amputated limb patient.

Two main themes from this category were *hygiene and comfort care and wound dressing.*

In addition to creating a personal connection between the patient and the health care provider, assisting patients with basic hygiene is essential to the patient's health maintenance. There are a number of negative outcomes that can result from failing to properly maintain sanitary conditions for patients. To avoid complications like wound infections, lower limb amputation patients require assistance with body hygiene. Patients in the traumatology unit, in particular, can benefit from regular bathing to prevent gram-negative infections. Clostridium infections can be avoided by assisting patients with elimination. As preventative measures, each of these hygiene practices aids the patient in maintaining their health as one participant said:

"*For me, physical support is physically taking care of the patient, that is to say body care to avoid bedsores, repair of the dressing, pain management*".

The healing of wounds takes several stages for people with amputated limbs. These patients run the risk of having their wounds get worse or get infected during the procedure. This can cause pain, fever, swelling, more surgeries, and other problems. It is essential for both the patients themselves and the medical professionals who are assisting new amputees to practice proper wound care techniques in order to guarantee a period of recovery and rehabilitation that is more successful as one participant said:

"*Physical support is the fact of physically taking care of the patient amputated stump, changing dressing regularly to promote good healing and reduce pain*."

3.2.2. Pain Management

The use of analgesics and educational care were the main themes outlined by nurses in the management of pain in patients with amputated lower limbs depending on whether the pain was from the stump or a phantom pain.

Use of analgesics

About half of patients eventually experience relief from stump pain without receiving treatment. Medication (pain-killers, antidepressants, and anticonvulsants), physical and occupational therapy, massage, hypnosis, nerve blocks, and neuromodulator are all options for relieving pain as one nurse stated:

"*To manage the pain of the amputee patient, analgesics such as Trabar are administered according to medical prescription. Other techniques that we use when the pain is not too intense are: massaging the area to promote blood circulation with some passive exercises*".

Educating the patients

One of the most important aspects of pain management is educating patients whose limbs have been amputated on their condition. When it comes to assisting patients in coping with phantom pain, professionals, particularly traumatology nurses and surgeons, are the most reliable sources of information. In order to provide the basis for ongoing pain management, amputees require timely, up-to-date information on phantom pain. This was the case with one participant as she stated:

"*We usually tell the patient that the most common amputation-related complication is phantom limb pain, which is the sensation of pain or discomfort in a limb that is no longer there. The effects of treatment will be amplified when physical and occupational therapy are combined with a cognitive understanding of the condition. By educating the patient about their condition and demonstrating to them how they can exercise control while attempting to alter harmful or incorrect beliefs and behaviors, we equip and empower the patient. Utilizing physical exercise, mental imagery of the phantom limb, and wearing an elastic stump sock to minimize volume changes in the residual limb are common self-treatment strategies*".

3.2.3. Wound Dressing

The most important and first step in a patient's recovery is taking care of the injury and the limb that remains. Amputation wounds, like any other surgical wound, are susceptible to infection. This is because there are germs and other kinds of bacteria that can get into the wound and cause other problems. The location of the amputation and the condition of the limb during surgery are two of the many factors that influence the rate at which a wound heals.

Nurses had diverse opinion when it came to choosing between early versus delayed dressing removal and drain. While some nurses thought that first dressings should be kept in place for at least four days, others outlined that dressings

should be removed 48 hours after surgery. Rather than covering the surgical wound with wound dressings for more than 48 hours after surgery, early dressing removal may reduce costs and shorten hospital stays. The appreciation of the secretions present in the Redon drain is very important for decision-making. It is the presence or absence of secretions that determines whether the removal of the drain should be done or not.. This was outlined by one participant:

"*Generally, it is 48 hours after the amputation we inspect the wound to see if there is no sign of infection, generally the inspection is within two (2) days it is necessary to look if the drain still produces and if the drain no longer produces we proceed to the removal of the drain. It is for two reasons, one to see if there is no infection and the other to verify whether the installed drain no longer produces and if the wound is clean we make the dressing and we program every 4 days because an operative wound is a clean wound*".

3.2.4. Prioritizations of Nursing Care

Regarding the management of amputee patients, nurses placed pain management in first position and stressed that it should be performed first as one nurse said:

"*Pain can cause depression, anxiety, decreased healing, non-compliance with medical treatment, prolonged hospital stays, a poor quality of life, and even lower patient satisfaction with the healthcare facility if left untreated. However, pain management is difficult. It is a complicated phenomenon that everyone experiences differently and is influenced by numerous variables. The nurse is crucial in identifying patients whose pain persists and advocating for improved pain management methods*".

The care placed last by the majority of nurses is medical care with administration of treatment as one participant pointed out when she said:

"*Medical care is put last certainly because medical care is part of the medical-delegated role and not the proper role of the nurse. Consequently, the nurse prefers care related to the functions of maintenance and continuity of life and aimed at partially or totally compensating for a lack or decrease in autonomy of a person compared to acts that require a medical prescription*".

3.3. Psychological Support of Patients with Amputated Lower Limb

Nurses outlined various categories of psychological support in the traumatology unit ranging from *active listening, reassurance and testimony from former patient and helping or confident relationships.*

Active listening

Listening is privileged here because listening is the essential tool of the helping relationship with the amputee patient, which is a relationship of accompaniment, guidance. The nurse must therefore find the right distance to help the patient identify his/her own needs, this is felt in one participant's statement:

"*Nurses can encourage patients to continue talking by using both nonverbal and verbal cues like nodding and saying "I see." Engaging with patients throughout a conversation, acknowledging that you are listening and comprehending, and showing interest in what they have to say are all components of active listening. Nurses are able to provide general leads like, "What happened next?" to direct the discussion or move it forward*".

Reassuring patients

Amputation can be extremely stressful for both the amputee and their loved ones. Free-floating anxiety about the future and the unknown is frequently present. Psychological assistance with all coping strategies ought to be provided gradually. The nurses and treating physician's assurance, both verbal and nonverbal, can aid in adaptation to the disability. A nurse elaborated:

"*By talking regularly with the patient, I regularly use God I talk to him about God that if it happened it is not because of sin there are some who do not accept but with time they end up accepting*".

Testimony from former patients

The testimony of the former amputees is justified by the fact that, in order for the amputee patient to know that he is not alone in this situation and that he must take example from others and move forward to accept his new situation like others. It is in this sense that one nurse said:

"*There are several methods often we bring our former patients who have been amputees and we ask them to go talk to the patient that the situation he is in is not the end so the testimony of former amputees really counts a lot*".

Helping or confident relationship

For some nurses, having a confident relationship is of paramount importance to patients with amputated lower limbs as a nurse outlined:

"*For the amputee patient to trust me, I show the patient that I understand his situation I am empathetic with him, the patient must feel listened to. I must be available and indispensable while respecting the patient's choice*".

4. Discussions

An individual's overall psychological, physical, and social functioning are negatively impacted by lower limb amputation. Thus for amputated lower limb patients to accept their new body image, nurses must support them both physically and psychologically.

The loss of a limb has a significant number of physical impacts at least in the early post-trauma but also in the long term. Amputation will cause pain in the residual limb, that is to say pain in the stump, it is in this sense that Ancet [9] affirms: the body as a unit is segmented only in pain or mental suffering. Amputation causes physical and mental pain and to manage these pains all participants agreed that the management of

physical pain is done medically by the administration of second intention analgesic following the medical prescription. Pharmacological interventions, including opioids and antidepressants, as well as surgical procedures, have been used historically. Unfortunately, opioids and antidepressants are associated with adverse side effects, including nausea, vomiting, drowsiness, sedation, and constipation [10]. Additionally, opioid prescriptions are associated with an increased risk of addiction over time, posing a higher risk of phantom limb pain because it is a chronic pain condition. Many surgical procedures are also invasive and can lead to serious complications during and after surgery, including infection and nerve damage. Therefore, consideration should be given to non-pharmacological and less invasive surgical interventions for PLP, as they are associated with less common and less severe side effects. For the management of phantom pain only one participant commented information, education and communication strategies should be used to make the patient understand that it is hallucinosis and that it will pass. None of the participants mentioned mirror therapy, transcutaneous Electrical Nerve Stimulation, Biofeedback, Integrative and Behavioural methods as helpful in the treatment of phantom limb pain. According to Moura [11], at some point during their clinical course, phantom limb pain (PLP) is a significant source of chronic pain for most people who have had an amputation. This condition often responds poorly to pharmacologic treatments, which can also have undesirable side effects. The effectiveness of these methods has been proven by Moura et al [11] that the mirror therapy allows patients to move their phantom limb that was previously frozen, in the same position and allows a reduction of phantom pain.

Relational care is characterized by verbal or non-verbal interventions aimed at establishing communication, with the aim of providing psychological help and support to an individual or group. All the participants agree on the fact that in order to verbalize the patient, everything starts with discussions, questioning, listening. Communication is therefore a means of entering into a relationship with others. It is in this sense that Novotny [12] affirms: *''One of the best ways of adaptation showed by patients and families after amputation is verbalization. Empowering conversation permits them to voice fears and concerns, get support acquire responds to questions as well as critically empowering nurses to distinguish their past experience, level of information, accessible assets, adapting style and view of the issue''* However, none of the participants mentioned about non-verbal communication, which is defined by attitudes, postures, gestures, gaze and different facial expressions of our body and face. Esther L. [13] carried out a grounded theory inquiry on a model for effective nonverbal communication between nurses and older patients and discovered that effective nonverbal communication is present in every healthcare encounter between a nurse and an older patient because nonverbal communication is impossible in each encounter In other words, whenever there is an interaction between a nurse and an elderly patient, nonverbal communication is inevitable even in the absence of verbal content. Researchers estimate the amount of nonverbal content in communication relative to verbal content. They describe that nonverbal communication accounts for 60-90% of total communication [14]. Therefore, nonverbal communication is inevitable. Therefore, nurses should be aware that their nonverbal communication may send mixed messages to older patients if these messages do not match their verbal content [15]. Additionally, awareness of nonverbal messages sent to others is essential because they often provide an explanation as to why people respond to us the way they do. Nonverbal communication therefore appears to be a deliberate concept that nurses must be aware of, as it can have negative consequences on the level of care provided [1].

Some participants believe that in order to best help the patient, they use what the patient tells them. For others, they use religion to reassure the patient. A randomized clinical trial carried out by Imeni [16] on the effect of spiritual care on the body image of patients undergoing amputation due to type 2 diabetes showed that reflection and meditation are best techniques for relaxation if they are utilized as part of spiritual care as they build the capacity to manage physical and mental issues. In other words, they are extremely basic and reasonable to realize since they don't disrupt one's spiritual convictions and confidence and are highly acknowledged in the general public. Likewise, no secondary effects have been accounted for this method, and they can be performed at any spot and time.

The difficulties identified by nurses in supporting patients in the acceptance of their new body images were language barrier and introvert patients. Shamsi [17] carried out a systematic review on the implications of language barriers for healthcare and recognized that language barriers in healthcare lead to poor communication between healthcare professionals and patients, thereby reducing satisfaction on both sides and reducing the quality of care delivery and safety of patients. Language barriers are responsible for reduced provider and patient satisfaction, as well as the quality of health care delivery and patient safety. Many health care facilities rely on interpreter services, which increases the cost and time of treatment visits [17]. Additionally, Imsek [18] carried out a qualitative study on the mental health of individuals with post-traumatic lower limb amputation and the result showed that after amputation, individuals suffer from serious mental problems such as anger, introversion, helplessness, and reduced self-esteem. The negative attitudes of their families, who are supposed to support them during this period, negatively influence the individuals' adaptation process. Notably, individuals reported that they would be able to talk, feel relief, and receive support if they had access to a mental health professional [18].

5. Conclusion and Recommendations

Nurses are directly affected by this research study's find-

ing. The majority of nursing settings allow them to work with amputees; instances of these settings incorporate essential consideration centres, prompt attention offices, and different clinic units. Individuals may receive comparable physical care for the residual limb and medications for underlying pathology, but these patients should receive individualized psychological care. The nurse can gain a better understanding of the psychological state of his or her patient by being aware that different levels of body image disturbance are caused by the number, duration, and cause of amputations. Amputees require encouragement and support because going through a change in appearance frequently causes anxiety, depression, and a negative body image. The nurse should assess the patient's psychological state immediately after the amputation and at any other time during care and implement interventions to address and attempt to control negative feelings and emotions.

Patients who have had two lower limb amputations may have a lower body image and more psychological deficits than patients who have only had one lower limb amputated. This is something that nurses should be aware of. They ought to be aware that patients who had their limbs amputated between six and ten years ago have the lowest body image, possibly as a result of facing challenges and realizing their limitations. Additionally, nurses ought to be aware that the reason for the amputation may cause a certain degree of body image disturbance in different patients. A nurse can assess her patient more effectively if she is aware of these findings.

To convey empathy, nurses are encouraged to let patients with lower limb amputation know that they are compassionate, caring, and concerned about their situation. Knowing the changes amputated patients experience related to their physical, psychological, social, and environmental health will help nurses better understand these patients.

To overcome language barrier, online translation tools such as Google Translate and Medi Babble offer possible solutions to overcome these challenges. Further research into the impact of language barriers and the effectiveness of online translation tools should be encouraged.

Nurses must be aware of available resources in the community and work in multidisciplinary teams to ensure optimal outcomes for post-amputation patients and their families.

Abbreviations

CHY	Central Hospital Yaoundé
LLA	Lower Limb Amputation

Conflicts of Interest

The authors declare no conflicts of interest.

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