

Experiences Following Amputation among Amputees and Their Caregivers: An Exploratory Study in a Developing Country

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Abstract

Amputation is necessitated following an accident or a medical condition often to save a patient's life. Despite the existence of the procedure and the rising number of amputees in the Ghanaian context, the emotional experiences of both amputees and their caregivers following amputation has been largely ignored. This qualitative exploratory study explored the emotional experiences of amputees and their caregivers following amputation. Using a semi-structured interview guide, ten (10) amputees and ten (10) caregivers were interviewed. Findings revealed that caregivers and amputees experienced a built up of negative emotions following amputation. There were slight disparities in the negative emotions experienced by amputees and their caregivers. However, for both amputees and their caregiver, the experience of gratitude and news breaking method influenced their emotional experiences. Implications of the findings are discussed.

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Introduction

Amputation is a traumatic experience that deprives individuals of their normal human functioning capacity and makes them dependent on others against their will. This kind of loss stimulates unpleasant emotional experiences (Borsook & Becerra, 2009; Mee et al., 2006). Statistically, 1.7 million people have some part of their body amputated in the United States (Ziegler-Graham et al., 2008), with an estimate of 245,299 amputees in Ghana, with the number rising every year due to several factors (Kyei et al., 2015).

Distinguishing factors that results in amputation include chronic debilitating conditions or traumatic situations that are unresponsive to medical attention (Frierson & Lippmann, 1987). These chronic incapacitating conditions may include tumor of bone, soft tissue, blood vessels or nerves, infection that is unresponsive to various treatment modalities and peripheral vascular disease (Garafalo, 1987). Other traumatic conditions that also necessitate an amputation include injuries like crush injuries; blast injuries; avulsion injuries; guillotine injuries and severe burns (Frierson & Lippmann, 1987). In both situations, the relevance of a caregiver cannot be overemphasized.

The loss of a body part is traumatic for both the victims and caregivers because it alters one's basic perception and meaning to life and values (Garafalo, 2000; Muzaffar et al., 2012). As such, amputation is associated with several physical and psychological consequences (Butler et al., 1992). These include physical disfigurement and loss of mobility which could result into a change in vocation, numbness, restless pining, pre-occupation with the loss, clear visual memories of the lost object and phantom limb sensation (Frierson & Lippmann, 1987; Muzaffar et al., 2012). The consequences of amputation are not just physical and psychological but also sociocultural (Liu et al., 2010). The interplay of these consequences lead to grief (Frierson & Lippmann, 1987; Olson, 2002), difficulty in interpersonal relationship (Hanna, 1996), body image problems (Ronaldson, 1999) and phantom limb pains in amputees (Murray & Fox, 2002).

The experience of amputation evokes strong negative reactions and emotions from amputees and their caregivers. Uncertainty, anger, anxiety, depression, fear, sadness and sorrow and emotional and psychological disconnection are common emotions amputees express (Liu et al., 2010; Queiroz et al., 2016). Loss of independence, mutism, screaming, assault on a family member, social isolation and displacement of anger and fear of abandonment and of being considered a burden are typical reactions experienced by amputees (Butler et al., 1992; Frierson & Lippmann, 1987; Liu et al., 2010). The accumulation of negative emotions has been identified as the experience of emotional pain (Bolger, 1999; Orbach, Mikulincer, Gilboa-Schechtman, et al., 2003; Orbach, Mikulincer, Sirota, et al., 2003; Shneidman, 1999). The unfortunate dimension is that, the caregivers become the recipients of these negative emotions. Hence, in the event of an amputation, amputees and their caregivers suffer.

Caregivers of amputees have been largely under investigated hence their exact experiences remain inconclusive. However, understanding the experiences of caregivers of other conditions provides a framework for understanding the experiences of caregivers of amputees. Caregivers have been observed to experience financial burden, lack of social support, social exclusion, emotional distress, stigma and depression (Ae-Ngibise et al., 2015). Similarly, caregivers of amputees have disclosed having negative emotional experiences like fear, denial, constant worrying and stress in the event of an amputation (Volker, 2015). Thus, patients and caregivers' expectations, choices and emotional states are not accidental or illogical but are the outcome of an experiential process (May et al., 2016).

Amputation is a constant adaptation process for both the amputees and their caregivers. However, some amputees deny their condition and do not seek social support at the primary stages of amputation (Frierson & Lippmann, 1987). This affects the caregiving experience as well as the psychosocial wellbeing of the caregivers. Just as amputees experience denial in the event of an amputation, caregivers equally experience denial and entertain fears of the unknown (Volker, 2015; Wain et al., 2004). Yet the pre-operative medical counseling is geared toward assisting the amputee adjust to his or her predicament to the neglect of the caregiver (Volker, 2015; Wain et al., 2004). Consequently, for caregivers, aside from having to deal with the traumatic ordeal that their loved one will never have his or her primary organ again, they also deal with the temper tantrums of the patient and accommodate it as such (Wain et al., 2004). It also stands to reason that the experience of negative emotions or emotional pain may be a common phenomenon to both amputees and their caregivers.

The multifaceted psychological processes amputees and their caregivers experience is influenced by quite a number of factors that aggravate or stabilize the experience of negative emotions. The experience of negative emotions can be influenced by the patient's age, sex, type of amputation, perceived or functional value of body part, pre-morbid personality, past coping skills, expectations for rehabilitation, social support, family system, occupational and vocational demands (Butler et al., 1992; Frierson & Lippmann, 1987). Unique social support of caregivers is a resilient factor for amputees (Queiroz et al., 2016). This brings to fore that the psychosocial, developmental and environmental contexts of disability are more important in the adjustment process than the physical disability (Rybarczyk et al., 2004).

The experience of negative emotions may be qualitatively different and operate on a continuum (Mee et al., 2006). For instance, the negative emotions one experiences from functional loss may be qualitatively different from the negative emotions one will experience from witnessing a loved one go through pain (Monin & Schulz, 2009). The loss of a body part which leads to functional loss may threaten amputees' basic vital psychological need to have control, to protect, to avoid shame, and to feel secure (Shneidman, 1999). Caregivers on the other hand, are exposed to distress from support-related demands of caregiving and exposure to a loved one's psychological suffering (Monin & Schulz, 2009). This process of empathy for pain (Borsook & Becerra, 2009) helps the caregivers to appreciate the emotional distress of the

amputees, especially since most of the amputees tend to project their feelings of inadequacy unto them (the caregivers) reinforcing the amputees' social isolation (Frierson & Lippmann, 1987). Butler et al. (1992) found that caregivers minimized their own psychological distress during the patient's recovery.

Limited studies have focused on various facets of amputees and amputation to the neglect of caregivers of amputees in the Ghanaian context. For instance Atosona and Larbie (2019) focused on the prevalence and determinants of diabetic foot ulcers and lower extremity amputations in three selected tertiary hospitals. Also, Bediako-Bowan et al. (2017) investigated the burden and characteristics of peripheral arterial disease in patients undergoing amputation in Korle Bu Teaching Hospital. Other studies like Buunaaim et al. (2019) retrospectively examined the pattern of trauma-related amputations among children in Ghana. Regardless, Amoah et al. (2018) maintained that amputation, aside from posing a physical challenge, elicited immense psychological and emotional challenge including the feeling of being a burden, being unimportant and being a useless entity for their families. Common emotional experiences among patients scheduled for amputation included sadness and fear (Arthur-Mensah et al., 2021). Although the levels of fear were generally low among patients, long term fear was higher among the patients than the short-term fear consequences of the surgery (Arthur-Mensah et al., 2021). Amputees relived occurrences leading to amputation (Buunaaim et al., 2020). This can be devastating to some individuals and may have far worse consequences than anticipated. Although caregivers of amputees have been largely ignored in the Ghanaian context, Owusu-Ansah (2015) found that caregivers of persons with disability experienced negative emotions like depression, anger and guilt. The researcher further explained that when caregiver self-care is neglected, caregivers face the possibility of experiencing burnout which may lead to poor physical, mental and emotional health for the caregiver. Caregivers, at this level, become susceptible to self-injury and injuring the care recipients as well (Owusu-Ansah, 2015). Thus, the argument that amputation may impact the psychological wellbeing of both amputees and their caregivers cannot be overemphasized.

Presently in Ghana, anecdotal evidence suggests that the steady increment in motor accidents, especially, and other forms of accidents may consequently correspond to a steady increment in amputees in the near future. Additionally, research shows that negative emotions may lead to psychological distress and even suicide (Shneidman, 1999) and given that amputation has been found to cause emotional distress in amputees and their caregivers, research in this area is even more necessary. Thus, it is disturbing to observe that no study has focused on comparing the negative experiences of amputees and their caregivers in the Ghanaian context even though literature reveals, similar to amputees, that caregivers suffer physical distress, social distress, emotional distress and spiritual pain and as such face a lot of psychological consequences (Brodsky et al., 2003; Delgado-Guay et al., 2012). Due to this limitation, policies formulated are not sensitive to the psychological needs of amputees and their caregivers in the Ghanaian context. We believe that comparing the negative emotional experiences of these two different categories of individuals who seem to have negative emotional

experiences sourced from a common occurrence (amputation) will call for a deserving attention on the psychological needs of amputees and their caregivers in the event of an amputation. In order to ensure complete fulfillment of the sustainable development goals two (2) and ten (10), good health and wellbeing and reduced inequalities respectively, the negative emotional experiences of both caregivers and amputees needs to be explored in detail in order to provide stakeholders with rich information on how to handle amputees and their caregivers in psychotherapy and policy formulation.

This study adopts Bolger's (1999) theory of emotional pain. Bolger's theory of emotional pain suggests a framework for dealing with negative emotional experiences. From Bolger's perspective, the experience of brokenness is core of the experience of emotional pain and it is used to characterize complex sets of experiences and processes that occur at the visceral, affective and conceptual levels. There are several negative emotions that accompany the experience of brokenness. These negative emotions include feelings of breaking apart, having nervous breakdown or losing oneself, sudden onset of tears, anger, sadness, and feeling of being exposed or vulnerable or damaged etc. These experiences if allowed lead to a transformed self, where insight to the experience of emotional pain is achieved. However, if these experiences and processes are disallowed, it leads to the covered self where one subjects himself or herself to the entire process of feeling broken. Arguably, this process of dealing with emotional pain may be applicable in the experience of negative emotions considering the fact that emotional pain is equally a negative emotional experience. Against this background, the following research questions are addressed; (1) what are the emotional experiences of amputees and their caregivers? and (2) What factors affect the emotional experiences of amputees and their caregivers?

Methods

Design

This study used a qualitative approach and qualitative exploratory descriptive research design was used to address the research questions. A descriptive research design gives a mental representation of a phenomenon (Blumberg et al., 2005) but does not explain why a given situation has occurred (Punch, 2005). Hence, descriptive research designs are suitable in unexplored research areas (Punch, 2005). When a given problem is not clearly or vividly defined, and lacks data explaining its dynamism, exploratory research design is suitable (Saunders et al., 2007). An exploratory research design forms the basis for a more conclusive research (Singh, 2007). This design is considered appropriate because of the exploratory nature of emotional experiences among amputees and their caregivers in the Ghanaian context and given that limited research has been conducted on the topic. To the knowledge of the researchers no study in the Ghanaian context has compared the negative emotional experiences of amputees and their caregivers. As such this research design was appropriate in order to explore and understand these negative emotional experiences of both amputees and

their caregivers to get a clearer image of how these emotions are similar or deviate from each other.

In-depth interviews were conducted using a semi-structured interview guide. The semi-structured interview was guide targeted at capturing the unique negative emotional experiences of amputees and their caregivers. This was to provide a better understanding of the dynamics which exist within the individual's social world (Giorgi & Giorgi, 2003) while refraining from referring to any pre-given framework (Groenewald, 2004). The semi-structured interview guide comprised of eight (8) questions that was used to facilitate discussion into participants' negative emotional experiences. A sample question was "*What was your initial feeling when you were faced with amputation/caring for an amputee?*" Interviews were audio-recorded and in certain circumstances where participants felt uncomfortable with being recorded, content of the interviews were written verbatim. Only two (2) interviews were written verbatim during the course of the interview process.

Participants

Amputees and their caregivers who were seeking medical attention from Nsawam Orthopedic Center and St Joseph Hospital constituted the population for the study. Individuals who were aged 18 years and above were approached for possible recruitment into the study. Morse (1994) suggests at least five (5) participants, as the minimum sample size for a qualitative research. Twenty (20) participants, made up of amputees (10) and their caregivers (10), who were aged 18 years and above were purposively sampled for the study. This sampling method was chosen given that the nature of the sample is determined by the phenomenon under study (Hycner, 1999). Six (6) amputees were in-patients, hence, their caregivers lodged in a facility close by and reported in at appropriate times to feed and attend to their relative. Four (4) amputees were out-patients who were reporting for review with their caregivers. However, the amputees were not matched to their caregivers due to unavailability of their caregivers. Other demographic information can be found in Table 1 below.

Procedure

Before the commencement of the study, ethical clearance was obtained from the Ethics Committee for Humanities (ECH: 016/16–17) in the University of Ghana, Legon. Permission to conduct the study was sought from 37 Military Hospital, St Joseph Hospital and Nsawam Orthopedic Center for possible consideration for data collection. However St Joseph Hospital and Nsawam Orthopedic Center, both located in the Eastern region of Ghana, and serve as a referral point and rehabilitation center for amputees, gave permission for the study to be conducted on those sites. In both institutions, the public relations officer introduced the first author (EO) to patients and their caregivers, after which, potential respondents were invited to partake the study. These individuals were approached individually and were fully briefed about the study and

Table 1. Demographic Information of Participants.

Amputees	Percentages	Caregivers	Percentages
Gender		Gender	
Male	60	Male	20
Female	40	Female	80
Age		Age	
18–23	10	18–23	10
24–28	20	24–28	30
29–33	10	29–33	30
34–38	30	38–43	20
39–43	10	53–58	10
44–48	10		
49–53	10		
Type of Amputation		Relationship to Amputee	
Lower leg	70	Parent	10
Arm	10	Spouse	10
Foot	20	Ward	10
		Sibling	30
		Other Relative	40
Profession		Profession	
Unemployed	30	Unemployed	20
Student	20	Student	30
Mechanic	30	Petty trader	30
Waitress	10	Health worker	20
Health worker	10		

their consent to partake in the study was sought. In all, twenty-nine (29) individuals comprising thirteen (13) amputees and sixteen (16) caregivers were approached. However, only twenty (20), made up of ten (10) amputees and ten (10) caregivers, accepted to partake in the study. The interviews were conducted by the first author to minimize inter-interviewer discrepancies. The first set of interviews (7) was conducted at St Joseph hospital and the second set of interviews (13) was conducted at Nsawam Orthopedic Center. One interview was conducted in the local dialect (Akan) and the rest were conducted in the English language. Each interview lasted for about thirty (30) minutes to an hour. After the interviews, the audio-tapes were transcribed verbatim by the first author for further analysis.

Trustworthiness

For qualitative data to be valid, Maxwell (1996) explains that three steps need to be followed to the latter. The first is providing accurate and complete representation of respondents' accounts. Then, making interpretations on the basis of participants'

perspectives that emerged from the data and finally, providing alternative perspectives on experiences that emerged from the data. Hence data was collected without any given pre-framework. Respondents' responses were written verbatim at the data collection stage. Responses were analyzed from respondents' perspectives and in-depth meaning derived, at the data analyses stage. The use of a quality tape recorder and detailed transcription of interviewed data ensured reliability of data (Green & Thorogood, 2009). Guba (1981) also suggests four criteria that ensures trustworthiness of qualitative data namely; credibility, dependability, transferability and confirmability. These tenets were followed to the latter.

To ensure credibility, the semi-structured interview guide was pretested through a pilot study to ascertain that it measures the negative emotional experiences of the given population. Controversies in data analysis were resolved at the group level, through group discussion among the research team. Data was triangulated. That is, multiple approaches to analyzing data was used as well. Data was analyzed individually and at the group level. Member checks were used to ensure that the themes realized were the exact representation of the sample and not the preferences of the researchers.

To ensure dependability, Shenton (2004) argue that a detailed description of research procedures and instruments used to collect data should be provide. Hence, a detailed procedure for data collection, and detailed description of the interview guide used have been provided.

Transferability was ensured by using the purposive sampling technique, which allows the researchers to select individuals who fall within the population of interest in order to attain the needed response in relation to the objectives of the study. Data was gathered from multiple source including amputees and caregivers with varying demographic characteristics and socioeconomic status. Bryman (2004) suggests that studying a phenomenon of interest investigated from multiple sources improve the generalization in qualitative research.

Lastly, confirmability was ensured by using multiple coders in data analysis. Transparency was ensured by providing a detailed methodology section. A step-by-step approach on data collection and analysis, also known as audit trail, has been provided.

Ethical Considerations

Ethical clearance was sought from the University of Ghana Ethics Committee for Humanities (ECH). Institutional approval was sought from the authorities in Nsawam Orthopedic Center and St Joseph hospital. Informed consent was sought from participants. Respondents were assured of the confidentiality, privacy and anonymity of their responses and identity. Participants' records were placed in a secured place under locks and only the research team had access to them. Also, responses were given arbitrary codes that ensured that the responses could not be linked to a specific individual. Respondents were also informed that their participation is voluntary and that they could withdraw from the study at any point in time without

any consequences to them. Some participants experienced slight psychological discomfort from the recall of traumatic situation and as such were given psychological counseling.

Data Analysis

All interviews were transcribed verbatim and analyzed using Braun and Clarke's (2006) six phases for thematic analyses. The process consist of *Familiarization with data*, *Generating initial codes*, *Searching for themes among codes*, *Reviewing themes*, *Defining and naming themes and producing final report*. Four individuals comprising of the authors and a research assistant were involved in the data analysis. The process of data familiarization started with the first author transcribing the interviews into a writing document. To ensure accuracy of the transcription processes, the research team including the authors and the research assistant listened to the audios several times and re-read through the transcripts and added missing information or re-wrote information that was not transcribed verbatim. Afterwards, the transcripts were read through several times by the authors and research assistant in order to enhance their understanding of the data. At this stage, segment of the data that made meaning and that were related to the research focus were noted for further analysis.

Following this, initial codes were generated. The initial codes captured both semantic and conceptual meaning of the data from participants. Initial codes from the transcribed data were generated separately by the first and second authors and agreed upon at the group level. Generated codes were further scrutinized at the group level for conformity. Afterwards, the codes were then clustered together to identify similar patterns at the group level. These similar patterns formed the themes for the data. The realized themes were reviewed for similarity. Similar themes were clustered to avoid redundancy. The generated themes were further scrutinized and agreed upon at the group level. Further the essence of each theme was investigated for meaning. The meanings realized from these themes guided the research team to well define and rename the realized themes. This was followed with a detailed write-out of the detailed analysis of each theme. Finally, analytic narratives were put into perspective by supporting it with existing literature and theory.

Findings

The findings of data analyses are presented below. Themes, subthemes and codes were generated from data. Where applicable, attempts were made to contrast the views of amputees versus those of the caregivers.

Antecedents of Amputation and Emotional Experiences

Thematic analysis revealed varied reasons for the emotional experiences of amputees and caregivers. These varied reasons were source from respondents' interpretation of

events or occurrences in their lives. Thus this theme reflects participants' emotional responses to their traumatic experience, as well as the source of this emotional experience.

Majority of the amputees aligned with either having their body part amputated due to an unexpected traumatic occupational accident (n=6) or a possible anticipated method of managing a disease (n=4). Regardless of the source, some amputees described their ordeal with little or no emotional attachment while other amputees were emotional about their ordeal. For instance an amputee narrated his experience that:

'... I was asked to go and do some repairs ... at ... Tarkwa, close to the mines. So ... when we got there, I was working under the truck ... when the axle fell on my leg ... mistakenly, ... when I came to this place, they tried their best to see whether they can do it without cutting the leg ... and they couldn't get it, so ... they asked me ... what do we do next..? ... do I agree that ... they should ... cut the leg? And I said ... they should go ahead' (Amputee, Male, 42 years old, Mechanic)

Another amputee disclosed that:

'...I had pain in my left toe. I went to the hospital, the first time they gave me ... pain killer ... but it was getting worse ... it was soo severe that my sister came and ... took me to her home. We went to the hospital to see the doctor ... At first they amputated the toe, just ... the left toe ... but the wound ... didn't heal ... because I am a diabetic ... my foot was getting black... they decided to amputate [the foot] ... the blood flow to my left foot wasn't adequate ... I felt bad but there was no other solution ...' (Amputee, Female, 49 years old, Nurse)

Caregivers, on the other hand, although did not directly experience the traumatic ordeal that sometimes leaves the patient handicapped, it was observed that they equally experienced negative emotions from two main sources, that is patient disability and patient's attitude.

Patient disability. The thought of having to cater for a once perfectly capable body was devastating to some caregivers (n=4). They could not come to terms with the new persona created out of a traumatic experience. For the caregiver, it was not just about the amputation, but about how to identify with the new being created out of the amputation. How to align one's thought and action with this new persona and wholeheartedly assist this person in any regard was a major concern to them. This was expressed by a caregiver in the quote below:

'I was at home when the police called me and told me that this is what had happened so we should come ... When we got there, they had already taken him [inside] ... and his leg was cut ... at once my heart, I didn't know where I was. All of a sudden, I could not feel my hand ... I didn't feel I had a hand ...' (Caregiver, Female, 40 years old, Mother, Unemployed)

Patients' attitude. For some caregivers ($n = 6$) their emotional experiences resulted from their attempt to reconcile patients' attitude with their mental processing of the whole experiences. That is trying to understand the interplay between the patients' attitude and emotions juxtapose their emotions and response to the patients' attitude. This conflicting circumstance represented a test of their own emotional intelligence. A caregiver explained her experience that:

'... I was not around when the incident occurred. I was at Obusai when my mother asked my siblings and [I] to come home because there was a problem. When we got there she was rolling on the ground, when you touch her she would shout [at you to] leave her. ... it was very sad ... In the beginning she was always angry when we go around her and would send us away.' (Caregiver, Female, 24 years old, Sister, Student)

Emotional Experiences of Amputees and Caregivers

This theme explored the emotional experiences that surfaced before and after amputation. In some instances, these emotions remained distinct for both amputees and caregivers, in other instance the line of distinction was blur. The conclusive evidence is that these emotions were primarily negative. These similar and unique feeling towards a single defined phenomenon reflects the constructive meaning of the traumatic event to both the amputee and the caregivers. These emotions of both amputees and the caregivers are discussed sequentially under the subthemes below;

Anger ($n = 7$). For some amputees, the fact that they would be handicapped after the amputation of their primary organ made them angry. Letting go off their primary organ was not up for discussion. These amputees were reluctant to let go of their primary organ which increased their experience of negative emotions. The realization that one could do little to help the situation finally threw in some form of understanding that their primary organ had to go. This is reflected in the following quote:

'... I walked out of the room [consulting room] ... I told them I would not cut my leg ... I was really hurt. Initially, I didn't even want to agree for them to cut my leg, but my family and the doctors took me through some counseling and I later consented' (Amputee, Male, 35 years old, Unemployed)

Loneliness ($n = 8$). This was a common emotion following amputation. Most amputees felt lonely. This loneliness was alleviated when a third person lend a listening ear to their plight bringing to fore the importance of psychotherapy and caregivers in the experience of loss. The following extracts capture such experiences:

'... sometimes I feel very lonely ... and I have a lot of things running through my mind when am seated. So when I have someone to talk to, then I become a little bit relieved' (Amputee, Male, 35 years old, Unemployed)

Sadness. This is a common experience following loss. Sadness expresses one's feeling of brokenness in the experience of negative situations. All the amputees (n = 10) experienced this emotion following amputation:

'... when I was discharged, even descending the stairs and ... seeing the sun, my eyes ached ... you can't imagine the tears ... my eyes were piercing and I was really sad ... I was filled with sorrow on my way home ... It really hurt me. It's really difficult when this thing happens to you ...' (Amputee, Female, 30 years old, Waitress)

Most caregivers (n = 6) were equally sad about the disability of their relatives. The idea of the person being disabled was accompanied by an automatic evaluation of the person's significance in their lives and the limit to the person's capabilities now that he or she has become incapacitated. This is depicted in the quote below:

'... indeed I was very sad when they told me my son will become disabled ... When we got there he was on a bed, fuming with anger and holding a sharp object claiming he would hurt anyone who comes close to his bed though he was about to be taken to the theater. Indeed I was sad and worried.' (Caregiver, Female, 56 years old, Mother, Petty trader)

Shock. Interestingly, this emotion surfaced following amputation. Majority of amputees (n = 6) did not anticipate their amputation and this led them into a state of complete shock. This emotion resulted into tears (n = 4) and mutism (n = 2). For instance, a participant disclosed that:

'... when I gained consciousness, I realized my leg was itching so I started scratching it ... after scratching it I moved to scratch the left leg and my hand landed on the bed and I shouted 'Jesus'!. Suddenly the doctors came around ... I was even crying at that moment' (Amputee, Female, 30 years old, Waitress)

Another amputee explained that:

'... I was hit by a car in reverse ... when I tried getting up, I noticed my foot was detached from my leg ... instantly, I couldn't speak. I just stared at the detached foot. I couldn't cry either. People kept asking me questions all I did was to stare at them ... but in my mind I kept saying 'Oh my God, what will I do now' (Amputee, Female, 46 years old, petty trader)

Some caregivers (n = 5) were equally shocked following amputation. However, unlike the amputee which resulted into tears and mutism, the caregivers' experience of shock resulted into behavioral displays like numbness of a particular body part. The feeling of shock gives the extent of the impact of the amputation on the caregivers as well. This feeling was expressed in the following quote:

‘ ... when I saw it ... at once my entire heart ached ... I didn’t even know where I was. Both of my hands stopped working ... it became stiff ... I didn’t notice I had hands that I could use to hold something, so little by little they massaged it with iced block for while ... ’ (Caregiver, Female, 24 years old, Wife, Petty Trader)

Hopelessness. Most amputees (n = 8) felt their situation was hopelessness following amputation. Their interpretation of the amputation was that, they could do nothing about it other than to depend on others for support. This made them feel there was no other way of coping with the situation. An amputee expressed that:

‘I was a student and ... something pricked me just like when a needle pricks someone ... I called my mum and she came ... she sent me to a prayer camp ... the case started getting worse. It got to a point I couldn’t go anywhere ... one day my brother ... sent me to the hospital to see the doctor ... the doctor checked, he said with the rate of the infection, there was no option than to amputate ... at that moment when he said it, I was really shocked. I was very sad. I was hit by the situation. I won’t be able to do anything’ (Amputee, Female, 24 years old, School drop-out)

This emotion was also a common feeling among some caregivers (n = 6). The caregivers, after assessing the gravity of the implication of the amputation to the individual and the family felt they could do very little to help the situation. For instance a caregiver stated that;

‘I think of it very much ... my child is the one who goes and comes [attends to the family] and now this has happened to her ... now that this has happened to her who [else] is there [to rely on] (Caregiver, Female, 50 years old, Mother, Unemployed)

Hurt. Some amputees (n = 6) lacked the words to describe how they were feeling although they felt some emotions within. They just could not name the emotions within and resorted to using descriptors like “hurt” to describe it. Some participants explained that:

‘ ... when I think about it [the amputation], what I realise is that, it hurts me ... ’ (Amputee, Male, 42 years old, Mechanic)

Some caregivers (n = 6) also found it difficult to define the emotions they were experiencing. Thus, just as the amputees, they used terms as ‘hurt’ to define the emotions they felt. Caregivers felt they could not dwell on their own hurtful feelings because they needed to be strong for the amputee. For example, a caregiver disclosed that:

‘ ... I should say I was really hurt though. But it has happened ... Even if it hurts you, you cannot say you will abandon her. You just have to be strong’ (Caregiver, Female, 39 years old, Aunt, Petty Trader)

Empathic pain. An emotion that was peculiar to some caregivers was empathic pain (n = 4). It was almost as if these caregivers could feel the pain of the amputees. The caregivers reconciled their pain with that of the amputees and suppressed their emotions within just to be a source of strength for the amputee. According to a caregiver:

‘I get afraid of what is happening. I never thought that this could happen to me. I usually get scare by the thought of it. I think about how [he is] going to get another leg so that he can stand on it. At least with that he can get a monthly job that would earn him salary. Putting these monies together can help us. This hurts me a lot ... ’ (Caregiver, Female, 56 years old, Mother, Petty trader)

Factors Influencing the Intensity of the Experienced Emotions

Interestingly, two main factors impacted the intensity of emotional experiences among amputees and their caregivers. While one factor seemed to elevate the experience of negative emotions, the other factor seem to alleviate the experience of negative emotions. The two factors identified were gratitude and news breaking method.

News Breaking Method. The method of breaking the news, as to the necessity for amputation for the individual, before or after amputation was an important factor that either elevated or alleviated the gravity of negative emotional experiences for both caregivers and amputees. Some amputees (n = 4) were displeased about not being given prior information before the amputation as such, they felt unprepared, psychologically, for the procedure. Further, some felt exempted from major decision making pertaining to their bodies and lives. These feelings led to refusal of the procedure the amputees. On the other hand, caregivers (n = 6) expressed anger at not being properly informed about the necessity of the procedure. This anger sometime made them refuse to consent to procedure. The aggravation of both the amputees and caregivers are captured in the following quotes respectively:

‘ ... they didn’t tell me that ... for instance maybe on this day I will be operated on out of the blue I heard I am to be operated on ... They didn’t tell me anything ... so just then I told them that for this one I wasn’t going to do because if you are going to do such a thing I have to be psychologically educated about it before. ... And where were they going to cut to? They just said they would have to get there first ... So my parents said if that is the case then they won’t do it so they brought me home’ (Amputee, Female, 26 years old, Unemployed nurse)

‘ ... As the days pass his leg began to rot. The doctor came in one day and told us point blank that he was going to cut off his leg. I was very angry and could not allow them to do that to my child ... ’ (Caregiver, Female, 56 years old, Mother, Petty trader)

For an amputee, active deception was used to temporarily curb the unpleasant emotional response to the amputation. This active deception caused hope in this amputee. Thus though concealing the truth from a patient and deliberately giving misleading information may be viewed in the negative light ethically, culturally and religiously, it however, made the amputees hopeful. The amputee explained that:

‘ ... I had collapsed so when I gained consciousness, I realized my leg was itching so I started scratching it ... after scratching it I moved to scratch the left leg and my hand landed on the bed and I shouted ‘Jesus’!. Suddenly the doctors came around and asked, ‘Madam X [name withheld] why?’ and then I asked, ‘what has happened to me? Where is one of my legs?’ ... they explained to me that I was knocked by a car and one of my legs detached from my body but they’ve placed the leg in a fridge. In fact, if it was not for the faith I had at the moment ... I would have died on that day ... ’ (Amputee, Female, 30 years old, Waitress)

Gratitude. This was a common emotion expressed by both amputees (n = 3) and their caregivers (n = 7). This was an interesting twist to events. The understanding is that people experience a build-up of negative emotions following a traumatic event or loss. The finding revealed that, people are sometimes grateful even following loss when the magnitude of the loss is compared to the worth of life in relation to death. It was revealed that amputees and caregivers’ experience of positive emotion was as a result of their religious beliefs. Religious teachings gave them faith that the body was but a perishable being that would not embark on the eternity journey with them:

‘ ... some [his visitors] were crying ... and I told them that ... we won’t take this body anywhere ... and I asked them ‘when someone dies, where is the body placed?’ they said in the ground.. then why are they crying? If the thing had fallen on my head or even my chest, I won’t have been able to talk’ (Amputee, Male, 42 years old, Mechanic)

A caregiver also explained that:

‘ ... for my sister ... to say the truth, she sometimes got angry but I tell her it is just a matter of patience, because it is not everyone who is able to survive such a situation. Some even die out of it ... so we ought to thank God that, although she is this way, God has been able to save her and she is still alive and with us here. We only give thanks to God.’ (Caregiver, Female, 39 years old, Aunt, Petty Trader)

Discussion

Negative emotional experiences are common to every human being although the source of the negative emotion may differ significantly from person to person. This study examined the emotional experiences of amputees and their caregivers following amputation. Thematic analysis revealed that the source of emotional experiences for amputees' lies in their amputation while that of the caregivers was rooted in patient's disability and attitude. For amputees, the emotional experiences included anger and pain before amputation and loneliness and sadness after amputation. The caregivers on the other hand experienced sadness and empathic pain before amputation. A set of common emotions following amputation for both amputees and their caregivers included hurt, shock, and hopelessness. Finally, factors that influenced these negative emotional experiences for amputees and their caregivers included the experience of gratitude and the news breaking method.

A negative change in the self and its functions instigated by trauma and loss may elicit negative emotional experience (Bulman, 1992; Freud, 1959; Herman, 1992). When there is the need for amputation, amputees struggle with the idea and this spurts up negative emotions of which anger is part (Frierson & Lippmann, 1987; Liu et al., 2010). The findings of this study affirmed the finding of Frierson and Lippmann (1987) and Liu et al. (2010). This study found that the source of amputees' negative emotional experiences was in the amputation. Also amputees experienced emotions like anger and pain in letting go of their primary organ. Caregiver's source of negative emotional experiences prior to amputation differed slightly from those of the amputees. Caregivers' experienced extreme sadness and empathic pain prior to amputation. This finding is consistent with Borsook and Becerra's (2009) assertion that empathic pain is a common phenomenon. It can be argued that feeling the pain of another person can bring about extreme sadness. Caregivers experience a lot of negative emotions, which they are not prepared for, at the thought of seeing a loved one handicapped (Monin & Schulz, 2009; Volker, 2015). These caregivers go to the extreme extent of denying their emotions just to concentrate on the patient (Monin & Schulz, 2009; Volker, 2015). The experience of shock, hurtful feelings, and hopelessness was common to both amputees and their caregivers following amputation, however, interestingly amputees felt lonely and sad following amputation. Bolger's (1999) theory of emotional pain explains that the experience of emotional pain is situated within the experience of negative emotions. Hence, the experience of emotional pain is followed by a buildup of negative emotions (Orbach, Mikulincer, Gilboa-Schechtman, et al., 2003; Orbach, Mikulincer, Sirota, et al., 2003) like feelings of sadness, hopelessness, hurtful feelings among others which depict a sense of brokenness (Bolger, 1999). The findings of this study revealed that the experience of negative emotions following amputation is not limited to amputees. Evidently, the finding unveiled that both amputees and their caregivers experienced a buildup of negative emotions before and after amputation which is in line of the description of the basic constituent of emotional pain

(Bolger, 1999; Orbach, Mikulincer, Gilboa-Schechtman, et al., 2003; Orbach, Mikulincer, Sirota, et al., 2003). Shneidman (1999) further explains that emotional pain is a form of mental suffering or mental torment resulting from the inner hurt one is experiencing. The experience of anger, pain resulting from letting go of a primary organ, loneliness, sadness, empathic pain, hurt, shock, and hopelessness implies that the hurt amputees experience extends beyond just physical pain because none of the amputees in this study made reference to any physical pain they experienced during the period of adjusting to their amputation. The interesting twist is that the caregivers also experienced some form of hurtful negative emotional experiences. It can therefore be argued that both caregivers and amputees experience some form of emotional pain because of the built-up of negative emotions they experience.

Amputation typically stirs up unpleasant emotional experiences (Cavanagh et al., 2006; Wain et al., 2004). The findings of this present study has revealed that, these unpleasant emotional experiences are common to both amputees (Liu et al., 2010; Queiroz et al., 2016) and their caregivers (Ae-Ngibise et al., 2015; Volker, 2015). A key finding in this research was that the experience of gratitude and the news breaking method about the need for amputation influenced the intensity of negative emotions in opposite directions. Findings revealed that, the feeling of gratitude alleviated the experience of negative emotions. Although this finding was unexpected, literature has suggested that gratitude reduces levels of negative emotions like depression and anxiety (Kendler et al., 2003; Lambert et al., 2012). Sometimes in the phase of a traumatic event, the individual's reflections on death cause them to appreciate life as a limited resource (Frais et al., 2011). However, this study has shown that some dimension of Bolger's (1999) theory is not context specific because in the Ghanaian setting, amidst the feelings of negative emotions following loss, people find reasons to be grateful for the gift of life. Findings of this study are consistent with existing literature which suggests that the method utilized in breaking bad news can lead to negative consequences (Monden et al., 2016). We found that the news breaking method elevated the experience of emotional pain to the extent that some amputees and caregivers refused considering amputation as the final medical remedy at the initial stages. Both amputees and their caregivers expressed concern that they were not properly counseled prior to the procedure.

Theoretically, the findings of the study correspond with Bolger's (1999) theory of emotional pain. Bolger (1999) explains that the experience of traumatic event initiates emotionally painful experiences. The experience of emotional pain which is a negative emotion also begins with the experience of complete brokenness. The characteristics of this state of brokenness is the feeling of woundedness, disconnection, loss of self and awareness of self as well as emotional and spatial descriptors. Two main characteristics that remain relevant to the findings of this study is the experience of woundedness and disconnection. Woundedness is experienced as a form of physical injury such as feeling damaged or wounded. In the case of amputees, the experience of woundedness

is reflected in the various forms of physical injuries that necessitated the amputation and the psychological pain in letting go of a primary organ. In the case of the caregivers, the experience of woundedness was not physical but psychological. According to Bolger (1999), the experience of brokenness is accompanied by the experience of several negative emotions like anger, sadness, heaviness, emptiness, helplessness, feeling of being exposed or vulnerable, overwhelmed, anxious, afraid etc. This observation by Bolger (1999) reflected in the findings of this present study. Amputees and their caregivers experienced a wide range of negative emotions suggesting that the emotions both amputees and their caregivers displayed may be their experience of complete brokenness which translates into the experience of emotional pain. Thus although Bolger's theory may not be fully applicable in the Ghanaian context, based on additional findings of this study, it provides a framework for understanding the experience of emotional pain, and by extension negative emotions on a generic level.

Limitations of Study

A notable limitation was the use of small sample size because amputees represent a special population and they are not readily available. Hence, it was difficult to recruit a larger sample size for the study. Despite this limitation, the findings of this study remain substantial and beneficial for the understanding of negative emotional experiences that serves as a factor for most of the psychopathological situations, like suicide, following a traumatic experience.

Implications for Research and Practice

Findings of this study revealed that amputees and their caregivers experience negative emotions and various forms of psychological distresses thus research should focus on developing a culturally sensitive measure that could be used to screen amputees and their caregivers for various negative emotions and psychological distresses before and after amputation so that appropriate measures can be taken to prevent unforeseen circumstances like suicide. Also, individualized therapy may not be beneficial for amputees. Thus clinical psychologists should consider structuring intervention in such a way that the amputees and their caregivers are involved in the psychotherapeutic sessions. Clinical psychologists would be beneficial in the counseling process because they provide individuals with psychological stability during traumatic experiences.

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Ethical Approval

The study took off after the researchers gained ethics clearance from the University of Ghana's Ethics Committee for Humanities (ECH: 016/16–17).


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