

# The Mental Health of Individuals With Post-Traumatic Lower Limb Amputation: A Qualitative Study

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## Abstract

**Aim:** The study was performed in order to identify how the post-traumatic amputation of the lower extremity affects the mental health of the individuals. **Methods:** This study is a qualitative study. A total of 12 individuals with post-traumatic lower extremity amputation were interviewed. The data were collected using the personal information form and the interview form that includes the questions on the effect of amputation on mental health, which were designated by the researchers. Data obtained from the survey were evaluated to attain descriptive situation determination. Based on the analysis, the effects of post-traumatic lower extremity amputation on mental health were found 5 themes. **Results:** In the study, it was found that individuals with post-traumatic lower limb amputation changed their emotions and behaviors after amputation, their body image and self-esteem were negatively affected, their families and the society differentiated themselves, they had negative feelings about their future, and they needed mental support to develop coping skills. **Conclusion:** The study shows that after amputation, individuals have severe mental problems such as anger, introversion, helplessness, and decreased self-esteem. Negative attitude of their families, who are expected to be supportive during this period, negatively affect the adaptation process of the individuals. A notable point is that the individuals stated that they could talk and feel relieved and get supported if they had access to a mental health professional.

## Keywords

post-traumatic, amputation, mental health

## Introduction

Amputation is the removal of all or part of a limb from the body due to medical reasons. Amputation is required only when a disease of a limb cannot be cured or when a life-threatening condition is present (1). Eighty-two percent of all amputations occur due to peripheral vascular disease, diabetes, or trauma (2). Traumatic amputation is the loss of all or part of an organ as a result of an accident or trauma (3). In cases such as traffic accident, amputation can become an urgent need (4,5). Today, as a result of increasing vehicle use and technology, post-traumatic amputations are at the top of the list (1). Lower extremity amputations constitute 76% to 80% of all amputations (2).

Amputation has been practiced since ancient times. Since ancient times, examples of amputation can be found in many cultures. One of the most famous of these cultures is the Mochicas, who lived at the northern shore of Peru between 100 and 750 AD. Based on some of their ceramics, it was found that they practiced amputation. There were skeletons

with signs of foot amputation (6). According to the skeletons found in excavations made in ancient Egypt in recent years, amputation is thought to have been applied in cases arising from construction accidents, stone collapse, or assault (7). However, amputation is performed within the context of the medical practices of today.

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Amputations adversely affect the lives of individuals and cause a decrease in their quality of life. Due to the restriction in physical movement as a result of physical diseases or organ losses, individuals can experience certain differences in their lives (8). It is also a known fact that the effect on the whole life will have a negative impact on the mental health of the individual. In addition to organ loss, amputation also means loss of function, body image, job, and relationships (4). After losing the basic physical functions in a short time following the amputation, the individual feels like his/her life goals are under threat and can experience various complex and intense emotions such as anxiety of being dependent on an instrument, fear of death, sadness, anger, helplessness, despair, remorse, and guilt. In addition, such complex intense emotions, with changes in the body image and the damage on body perception and self-esteem, individual's mental health may deteriorate and the individual can face difficulties in maintaining his/her social relations (9).

Amputation is not only a physical injury but also a long-term severe stress and is a devastating and traumatic experience (10). What is lost is not just a limb but also a sense or a series of senses. Thus, among the mental issues observed in individuals following physical injury are sadness, anger, helplessness, crying continuously, despair, anxiety, introversion, loss of role within the family and in professional life, decreased self-esteem, fear of death, anxiety of not being self-sufficient/becoming dependent, depressive appearance, and social isolation (11). Nurses who experience nurse-patient partnership for a long time in clinics of orthopedics and traumatology, which are the specialties that provide the required long-term care, play a key role in the prevention and alleviation of the mental problems that can arise (12). Thus, the study was performed in order to identify how the post-traumatic amputation of the lower extremity affects the mental health of the individuals.

## Material and Methods

### *Type of Research*

This study is based on a field study where the qualitative method was used and descriptive situation determination was made in order to identify how post-traumatic amputation of the lower extremity affects the mental health of the individuals. The goal in case studies is to demonstrate results pertaining to a certain condition (13).

### *Population and Sample*

In this study, in order to demonstrate the situation, A university hospital in Central Anatolia was selected due to its service capacity, heavy patient load, and the fact that it serves the neighboring provinces. A total of 12 individuals with post-traumatic lower extremity amputation, 7 of whom were male and 5 of whom were female, were interviewed. In order to assess the intersexual effects among the participants,

the number of individuals from both genders were close to each other.

### *Selection Criteria*

Since the number of cases of post-traumatic lower extremity amputation peaks between 17 and 55 years (14), the age of the participants was kept between 17 and 55 years. As the wounds of the individuals are still healing at the time when the amputation have taken place recently, the pain is still intense, and the individuals are not yet aware of their condition (15); since they need to lie down continuously, the individuals whose tissue healing is complete and who presented at least 3 months after the amputation were interviewed. In addition, individuals who underwent amputation due to chronic disease or diagnosed with mental illness were not included in the study since these would affect the outcome of the study. Volunteers who signed the informed consent form were included in the study. The study was conducted between July and December 2017.

### *Ethical Principles of the Research*

In order to perform the survey, written consent was obtained from the University Medical Faculty, Department of Orthopedics and Traumatology, and approval was obtained from University Clinical Research ethics committee (no. 2017/332). Moreover, individuals with lower extremity amputation who were included in the study were informed about the objective of the study and their verbal and written consent were obtained.

### *Data Collection Process*

The data were collected using the personal information form and the interview form that includes the questions on the effect of amputation on mental health, which were designated by the researchers. Interview questions were generated after reviewing the relevant literature (16). Data obtained by performing semi-structured in-depth one-on-one interviews with the subjects were to be recorded by the voice recorder, but as the participants refused to cooperate, the data were collected in the form of written notes. Interviews were performed in the physicians' room assigned for the interview and in the other appropriate areas within the hospital. The interviews took an average of 40 to 45 minutes.

**The introductory information form:** The survey included 7 questions on the age, gender, marital status, employment status, level of income, and level of education of the individuals.

**A semi-structured interview form:** The survey included 18 open-ended questions which would evaluate the mental health of the individuals after undergoing lower extremity amputation.

## Data Analysis

Data obtained from the survey were evaluated to attain descriptive situation determination (13). The data recorded in the interview form were organized after the interviews were over and written as raw data on the computer. The compatibility of the raw data with the code and theme was determined by the researchers. These data are encoded as gender, age, and marital status (F-2, married, 30-M-3, single, 36 etc) All these data were then interpreted and organized into a report. The quantitative data in the Personal Information form were evaluated in a computer environment and expressed as numbers.

## Results and Discussion

This section includes the findings on the defining characteristics and mental health of the individuals based on the results of the interviews conducted to determine how the post-traumatic lower extremity amputation affects the mental health of the individuals. When the findings on the defining characteristics of the individuals included in the survey are evaluated, it was found that the mean age was  $36.91 \pm 8.9$ , 8 of 12 were married, 9 were unemployed, 9 had their income equal to their expenses, and 6 were primary school graduates.

The effects of post-traumatic lower extremity amputation on mental health are collected under 5 themes.

### *Theme 1: Affectional and Behavioral Changes After the Amputation*

The majority of participants in the study stated that they were angry, introverted, and unhappy after amputation. In a publication (17), including studies which were investigating the psychological and social difficulties that amputated people were faced, it was reported that there were individuals who felt socially uncomfortable, individuals who experienced anxiety having difficulty to adapt, their anxiety and depression levels increased, and their life activities decreased. In other studies, it was stated that various mental problems may occur after traumatic situations such as amputation (5,18). Since amputation involves the loss of a limb, individuals undergo grief process due to this loss. In this context, individuals undergo 5 stages, which are denial, anger, bargaining, depression, and acceptance (19). It has been observed that there were important changes in the emotions and behaviors of individuals with post-traumatic lower limb amputation. The majority of the participants expressed that they were angry, introverted, and unhappy after the amputation. Mourning process would have caused; the anger of participants toward themselves or others, unhappiness, and introversion. Therefore, emotional and behavioral changes of individuals with amputation should be evaluated in detail. And after amputation, mental support should be provided to individuals who had mental problems.

- I started to feel very angry. I became a very pessimistic person after my leg was amputated. I want to cry when I look at my leg. I gulp down my sadness and do not cry so that my children do not see me crying. I became introverted. (F-2, Married, 30)
- I cannot control my anger after the amputation of my leg. I want to shout and rant at the slightest thing. I cannot forgive my father because the car accident was his fault. He is responsible for everything. My life fell apart. I cannot forgive him. (F-1, single, 24)

### *Theme 2: Body Image and Self-Esteem*

Self-esteem and body image are affected by external events, reactions of the society, and diseases. Especially events such as amputation, cancer, chronic diseases, and stroke can cause the individuals to have negative thoughts regarding themselves and thus reduce their self-esteem (20). In studies with individuals with orthopedic disabilities, it was stated that the negative evaluation of their appearance by other people caused them to feel bad and that they had beliefs that they would approach them with a sense of pity (21, 22). It was found that almost all of the subjects of the study had decreased self-esteem, disruption of the body image, and faced pity from other people in the society. They stated that they were mostly uncomfortable because of their appearance, since they had thoughts of being crippled, disabled, semi-human. Therapeutic interventions should be done by mental health professionals to protect individuals' body image and increase self-esteem. Especially after amputation, providing opportunities them to be productive so as to avoid them feeling inadequate themselves. Participants expressed their thoughts on their appearance as follows:

- They pity me because I don't have a leg, I feel very angry when I see the pity in their eyes. For example, I don't want them to help when boarding the bus, I'm not a semi-human (E-6, married, 48)
- No one will like me now; even I do not like myself. (F-1, single, 24)

### *Theme 3: Familial and Social Approach*

In addition to loss of a limb, amputation also means loss of function, body image, job, and relationships (4). While the individual was self-sufficient in his/her previous life, changes in everyday habits and loss of a body part causes the individual to become dependent on others and causes the individual to become distant from his/her social environment (23). In this study, individuals stated that their families and the society changed their approach to them after the amputation and they were disquiet with this situation. Most of the participants think that they are burden on their families due to the need for care and loss of work and that their places in the family and community have changed. However, the fact

**Table 1.** The Effects of Post-traumatic Lower Extremity Amputation on Mental Health.

Category	Theme 1: Affectional and Behavioral Changes After the Amputation	Theme 2: Body Image and Self-Esteem	Theme 3: Familial and Social Approach	Theme 4: Thoughts About the Future	Theme 5: Need for Mental Support After the Amputation/Coping
<i>Psychological Dimension</i>	Code 1 anger, introversion, and unhappiness	Code 2 the idea of being a cripple, disabled, semi-human	Code 3 Change of the place in the family and in the society, increased care of the family, being a burden on the family, introversion, alienation from the society, and pity	Code 4 The sense of inadequacy, the future losing its meaning, incapacity to work, and pessimism	Code 5 The need to talk to a mental health professional, aying, staying silent

that amputated individuals face the reactions of people in society such as pity has caused problems such as introversion, embarrassment, and alienation from society in the majority of individuals. The thoughts of being a burden on their family and that their place in the family and society have changed can also be caused by the gender roles in the society. Social gender roles attributed to men and women as a result of the culture have a significant effect on the roles within the family. Thus, the roles adopted by the family members are reflected on the family relations (24). While the woman's role in traditional families is to ensure that the family is fed and to raise children, the man's role is to earn money and to bring food to the family (25). Family life would be negatively affected because of failure of family members to fulfill their roles due to health problems such as amputation. In this context, the families of amputated individuals should be included in the treatment process. Thus, they would understand what these individuals were experiencing better.

- I'm a burden on my family, I used to do all the house work, but now, I cannot. Although they say that I am not a burden on them, I know that the reality is not so. (F-5, married, 44)
- After the amputation of my leg, I am unable to work. We used to barely meet the ends, now I can see the anxiety in my children's eyes, should they think about themselves or me . . . (M-7, married, 52)
- I thought I was going to be a burden to my family after separating from my husband, one understands the reality when one becomes crippled, should I feel sorry that I am unable to work or should I feel sorry that I lost my previous life . . . (F-3, divorced, 34)

#### *Theme 4: Thoughts About the Future*

Due to the thought of inadequacy and being unable to work after the amputation, majority of the participants feel pessimistic and that the future has lost its meaning. Physical defects such as extremity amputations have been reported to cause a feeling of inadequacy in individuals (26). Damrosch (1988) stated that the loss of visible organs could cause problems such as physical limitations, incapacity to work, being embarrassed from others (27). In this context, the

future thoughts of the participants in the study are compatible with the information from the literature. It is thought that evaluating the feelings and thoughts about the future, making attempts in this respect, determining short- and long-term intentions for the future would increase the quality of life of amputated individuals.

- If my leg was not amputated, I would have told you about my dreams regarding the future, but it is meaningless now, I don't think about anything. Other than trying to get used to my current state. (F-1, single, 24)
- My future is in ruins. Now I cannot even ski, even saying that tears my heart out. I am no different from a living dead. (M-3, Married, 36)
- When I think about the future of my soul feels crushed, as it is not enough that I am a burden on my children, I worry if they will always have to look after me, what will I do when they get married and have a home of their own. (F-5, married, 44)

#### *Theme 5: Need for Mental Support After the Amputation/Coping*

In this study, it was determined that individuals with lower extremity amputation needed mental support to cope with the negative effects of amputation on mental health. In the post-amputation period, people say that family members take greater care of them, but majority of the people, including their family members, do not understand them, they only pray when they feel depressed but they would like to talk and feel relieved if they can find a mental health professional (doctor, nurse, and psychologist). The presence of social support after the amputation and use of effective coping methods are among the factors that protect mental health (28). It is stated that social support directly positively affects physical and mental health and the social support from the family is also important for the individuals to cope with the difficulties they face in life (29). At this point, it is important that the mental health professional inform not just the individual but also the family about the process and create awareness in the family on how they can support the individual or which behaviors have a negative effect on the individual. Nonetheless, to provide mental support services

in the treatment and care process of amputated individuals, planning is required.

- I don't talk to anyone from my relatives, they don't understand and also say that I should praise for my situation as there are worse, they don't understand that it cannot be any worse for me, nobody understands that and I feel angry... I say to myself, God give me patience, I pray, and I stay silent. (F-1, Single, 24)
- I'm not doing anything, I want to cry when I see my leg, but I try not to show it so that my parents don't feel sad, I endure in silence. Sometimes I look out of the window, I smoke... (F-2, Married, 30)
- I feel ashamed about my leg, I do not say anything to anyone but I withdraw. Previously I used to meet with friends and family very often, now I do not step outside the house. When I feel bored, I sometimes talk to my wife, I pray, I also watch TV all the time... (M-7, married, 52)

### Limitations of the Study

In the process of data collection for the survey, individuals can have difficulty in expressing themselves in a clinical setting and the interviews can be disrupted. Thus, lack of a room especially dedicated to the interviews and the efforts to find a suitable environment can be listed as the difficulties of the study.

### Implications for Practice and Research

- Individuals with post-traumatic lower limb amputation experience mental problems.
- In the post-amputation period, individuals need social (family, friends, etc.) and mental support.
- It is important to offer physical support and mental support to individuals with posttraumatic lower limb amputation.

### Conclusion

The study shows that after amputation, individuals have severe mental problems such as anger, introversion, helplessness, and decreased self-esteem. Negative attitude of their families, who are expected to be supportive during this period, negatively affect the adaptation process of the individuals. A notable point is that the individuals stated that they could talk and feel relieved and get support if they had access to a mental health professional. According to these results, after amputation, in addition to their physical recovery, individuals must undergo an extensive evaluation of their mental status in routine follow-ups, necessary support must be provided, appropriate family members must be invited to the follow-ups and share their feelings. In addition to these, training the society regarding the view of and

attitude toward the amputees and its consequences can play a significant role in raising awareness.

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### References

1. Sümer A, Onur E, Altınlı E, Çelik A, Çağlayan K, Köksal N. Alt Ekstremitte Amputasyonlarında Klinik Deneyimlerimiz. İnönü Üniversitesi Tıp Fakültesi Dergisi; 2008;15:187-190.
2. Terry Canale S, Beaty JH. Campbell's Operative Orthopaedics. Başbozkurt M, Yıldız C, çeviri editörleri. Güneş Tıp Kitapevleri, 11. 2011:561-639.
3. Karcıoğlu Ö, Demirel Y, Esener Z, et al. Drug intoxication in the emergency department: a one year case series. Acil Tıp Dergisi. 2002;2:26-32.
4. Anderson M, Deighan F. Coping Strategies in Conjunction With Amputation. Thesis. Division For Health And Caring Sciences. Karlstads University; 2006.
5. Öznur T. Çatışmayla ilişkili travmatik amputasyonların fiziksel rehabilitasyon sürecinde eşlik eden psikiyatrik sorunlar. Gülhane Tıp Derg. 2013;55:332-341.
6. Verano JW, Anderson LS, Franco R. Foot amputation by the Moche of ancient Peru: osteological evidence and archaeological context. Int J Osteo. 2000;10:177-188.
7. Dupras TL, Williams LJ, Meyer MD, Peeters C, Depraetere D, Vanthuyne B, et al. Evidence of amputation as medical treatment in ancient Egypt. Int J Osteoarch. 2010;20:405-423.
8. Berman A, Snyder S. Fundamentals of Nursing: Concepts, Process and Practice. 6th ed. Pearson Education; 2012: 906-911.
9. Kaya H, Acaroğlu R. Spinal kord yaralanması olan hastalarda hemşirelik bakımı ve eğitimin bağımlılık-bağımsızlık ve öz bakım gücüne etkisi. Türk Nöroşirürji Dergisi 2005;15:56-68.
10. Yazıcıoğlu K, Taskaynatan MA, Güzelküçük U, Tuğcu I. Effect of playing football on balance, strength and quality of life in unilateral below- knee amputees. Am J Phys Med Rehab. 2007;86:800-805.
11. Akdemir N, Bostanoğlu H, Yurtsever S, Kutlutürkan S, Kapucu S, Canlı Özer Z. Yatağa bağımlı hastaların evde bakım hizmeti. Dicle Med J. 2011;38:57-65.
12. Okanlı A, Özer N, Çevik Akyıl R, Koçkar Ç. Cerrahi kliniklerinde yatan hastaların anksiyete ve depresyon düzeylerinin

- belirlenmesi. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi. 2006;9:39-44.
13. Yıldırım A, Şimşek H. Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Seçkin Yayıncılık 9; 2013.
  14. Eftekhari N. Amputation rehabilitation. In: O'Young B, Young MA, Stiens SA, eds. PMR Secrets. Philadelphia Hanley Belfus; 1999;214-222.
  15. Özsoy İ, Okyayuz Ü. Ampütasyon geçirmiş kişilerin baş etme becerileri: olgu sunumu. Klinik Psikiyatri. 2016;19:45-51.
  16. Yılmaz Tosun Y. Multiple Sklerozda Damgalama: Hasta ve Yakınlarında Hastalık Hakkında Bilgi, Tutum Ve Davranış Özellikleri. Yayımlanmamış Uzmanlık Tezi, Çanakkale Onsekiz Mart Üniversitesi, Çanakkale; 2013.
  17. Hanley MA, Jensen MP, Ehde DM, Hoffman AC, Patterson DR, Robnson LR. Psychosocial predictors of long-term adjustment to lower-limb amputation and phantom limb pain. Disabil Rehabil. 2004;26:882-893. doi.org/10.1080/09638280410001708896
  18. Özkan S. Kolorektal Kanserli Hastaya Psikiyatrik ve Psikososyal Destek. Türk Kolon ve Rektum Cerrahisi. 2010;787-799.
  19. Oğul M, Erden G. Amputasyonun Psikososyal Boyut. Ankara Üniversitesi Dikimevi Sağlık Hizmetleri Meslek Yüksekokulu Dergisi; 2005;7(1):4-15.
  20. Küçük N. Talasemi Majörlü Adölesanlarda Beden İmajinin Benlik Saygısına Etkisi. Yayımlanmamış Yüksek Lisans Tezi, Marmara Üniversitesi; 2007.
  21. Wiegerink D, Roebroek ME, Donkervoort M, Kettenis C, Peggy T, Stam HJ. Social, intimate and sexual relationships of adolescents with cerebral palsy compared with able-bodied age-mates. J Rehabil Med. 2008;40:112-118.
  22. Buz S, Karabulut A. Ortopedik engelli kadınlar: toplumsal cinsiyet çerçevesinde bir çalışma. Iğdır Üniversitesi Sosyal Bilimler Dergisi. 2015;7:25-45.
  23. Kelleci M, Doğan S. Bedensel hastalıkla birlikte depresyonu olan hastalara hemşirelerin yaklaşımlarının incelenmesi. Anadolu Psikiyatri Dergisi. 2001;2:161-168.
  24. Akgül Gök F, İl S. Evli kadın ve erkeklerin toplumsal cinsiyet rolleriyle ilgili algılarının aile işlevlerine yansımaları. Uluslararası Sosyal Araştırmalar Dergisi. 2017;10:524-532. doi:10.17719/jisr.20175434616
  25. Geçtan E. Çağdaş Yaşam ve Normal Dışı Davranışlar. Maya Matbaacılık 12. Basım; 1982:25.
  26. Yörükoğlu A. Gençlik Çağı Ruh Sağlığı ve Ruhsal Sorunlar. Özgür Yayınları 13. Basım, İstanbul; 2007.
  27. Damrosch SP. Perceived threat of hypothetical loss of body part in nurses and nursing students. Health care for women international, 1988;9(4):305-315.
  28. Horgan O, Maclachlan M. Psychosocial adjustment to lower-limb amputation. Disabil Rehabil. 2004;26:837-850.
  29. Gustavsson M, Julkunen J, Hietanen P. Quality of life in cancer patients: the role of optimism, hopelessness and partner support. Qual Life Res. 2006;16:75-87.

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