

Review

Psychosocial Problems and Care of Patients with Amputation

Nuray Simsek,¹ Gulhan Kucuk Ozturk,² Zeliha Nilufer Nahya³

¹Department of Nursing, Erciyes University Faculty of Health Sciences, Kayseri, Turkey

²Department of Nursing, Nevsehir Hacı Bektas Veli University Semra and Vefa Kucuk Health School, Nevsehir, Turkey

³Department of Turkish Folklore, Erciyes University Faculty of Letters, Kayseri, Turkey

Abstract

Amputation affects negatively the whole life of individuals. An individual who loses basic physical functions in a short period after the trauma may give various complicated emotional reactions such as concern of being in need of an equipment, fear of death, sadness, anger, despair, hopelessness, regret, guilt by feeling that their life purposes are under threat. Individual is likely experience psychosocial problems due to change in body image and injured body image and self-confidence along with these complicated feelings. Therefore, it is important to evaluate psychological and social problems along with physiological problems within nursing care in posttraumatic amputation period. Role of nurse in post-amputation psychosocial problems are to help patient and the family to adapt amputation, to prevent psychosocial problems, and to improve coping skills of patient and the family. The goal of the study is to address what kind of a nursing care needs to be provided by identifying psychosocial problems occurring in patients undergoing posttraumatic amputation.

Keywords: Amputation, psychosocial problems, nursing, care

Orthopedic and traumatological issues affect the entire lives of individuals in a negative way and lead to decrease in life quality. Individuals may face some differences in their lives due to physical diseases or organ losses which result in physical activity restriction.

[1] Furthermore, it is known that if the entire life of an individual is affected this will also affect an individual's mental health negatively. When an individual, who has lost the fundamental physical functions thereof subsequent to a trauma, is concerned that he will need a specific device in a short period, he may give complex intense emotional responds like fear of death, sadness, anger, desperation, hopelessness, regret as well as guilt. It is possible for an individual, when in addition to these complex intense emotions he has a change of his body image, a damaged

body sensation and self-esteem, to have deterioration of his mental health and face difficulties in maintaining his social relations.^[2] The objective of this compilation is to identify the psychosocial issues which emerge in patients with post-traumatic limb amputation and to discuss how a nursing care should be provided.

Amputation

Amputation, which is defined as the removal of an extremity from any level, is one of the oldest operations made in human history. Numerous historians have reported that amputation has been made as a method of religious punishment before in various parts of the world. The first surgical amputation in order to save a life was performed by

Address for correspondence: Gulhan Kucuk Ozturk, Ph.D. Nevsehir Hacı Bektas Veli Universitesi, Semra ve Vefa Kucuk Saglik Yuksekoku, Nevsehir, Turkey

Phone: +90 507 824 28 98 **E-mail:** glhnck@hotmail.com

Submitted Date: October 01, 2017 **Accepted Date:** November 06, 2017 **Available Online Date:** November 16, 2017

©Copyright 2017 by Eurasian Journal of Medicine and Investigation - Available online at www.ejmi.org



Hippocrates, who lived in the 4th and 5th centuries BC. Ambrosie Pare, a French army surgeon, controlled bleedings by tying blood vessels and created functional stumps and developed prostheses for the first time at the beginning of 16th century. The tourniquet developed through Morel in the 17th century has also contributed to surgery of amputation. Major developments took place following the second world war in the fields of both amputation surgery and prosthesis applications because there were a large number of genetic amputation cases due to war injuries.^[3]

Reasons and Prevalence of Amputations

Amputation denotes the limb loss which occurs either congenital or later (arising from trauma, circulatory disorders, chronic infections and tumor).^[4] Much as the main amputation causes may change according to the countries, diabetes and peripheral vascular diseases are generally in the first place in developed countries^[3, 5] and traumas are in the first place in the less developed countries.^[6, 7] The main reason of amputation under 50 years of age is trauma.^[8] The reasons of amputation are listed briefly as follows in classical publications.^[9, 10]

1. Trauma
2. Diabetic Neurovascular Reasons
3. Peripheral Vascular Diseases
4. Firearm Injuries
5. Chronic Infection
6. Tumor
7. Congenital Anomalies

The reason of more than 90% amputations made in the western world is peripheral vascular diseases. Trauma is the leading cause in young patients which is followed by tumors.^[11] Much as there is no clear information as to the incidence of amputation in Turkey, there are approximately 1.6 million amputees living in the U.S.A. according to 2005 data and it is estimated that number of amputees will be 3.6 million in 2050. It is said that the rate of amputation is 54% and 45% due to vascular diseases and trauma respectively.^[8] It has been reported that men are more at risk of trauma-related amputations compared to women.^[5]

Types of Amputations

1. Lower Limb Amputations

Lower extremity amputations consist of foot and ankle amputations, below-knee amputations, knee amputations and above-knee amputations and cover 76-80% of all amputations. Circulatory disturbances due to peripheral vascular diseases, diabetes or traumas are observed in 82% of all hospital admissions for amputations. Lower extremity

amputation is made for this reason.^[11]

2. Hip and Pelvic Amputations

Hip and pelvic amputations are mostly performed due to tumors. Amputation dimensions may vary and often require non-standard skin transplant repairs depending on the oncological needs related to tumors.^[11]

3. Upper extremity amputations

Upper extremity amputations consist of hand and wrist amputations, forearm amputations, arm amputations and shoulder amputations and cover 3 to 15% of all amputations. Upper extremity amputations are 20 times less compared to lower extremity amputations. The most common reason of upper extremity amputations is trauma except shoulder amputations, in which malign tumors are the primary reason.^[11]

Nursing Care for Psychosocial Issues Which Appear During the Process of Amputation

Injuries associated with amputations often require a multidisciplinary team comprising departments of orthopedics, general surgery, plastic surgery, chest and cardiovascular surgery, physical therapy and psychiatry during the processes of treatment, care and rehabilitation. Nursing approaches of nurses, who constitute an important part of the multidisciplinary teams, as to psycho-social issues emerging during the amputation process are discussed in this section.

Amputation does not denote only a physical injury, but also a long-lasting, violent stress and destructive and traumatic experience.^[12] As such, nurses do not only provide nursing care with a view to protect and improve the physical health of patients in amputation situations, but also to protect and improve the mental health thereof. Psycho-social issues observed in patients include sadness, anger, desperateness, crying constantly, hopelessness, anxiety, introversion, loss of roles incident to family and work lives, decrease of self-confidence, fear of death, concern as to not being self-sufficient/dependent, depressive appearance and social isolation.^[13] Nurses play an active role in prevention and removal of psychosocial issues at this stage.^[14] Nurses should regularly monitor and evaluate the psychological state of patients in this complex intense emotional process, use effective communication skills and establish therapeutic relationships with patients.^[15]

Nurses have a key role in protecting the physical and mental health of patients inasmuch as they have experienced patient-nurse co-operation for a long time in orthopedics and traumatology clinics where long-term care of patients

are required. It is very important, in this context, for nurses to plan patient-specific interventions to fulfill the requirements of patient by communicating openly, clearly and directly with the patient and his family in amputated patients' coping with the mental issues they experience.

Treatment methods of patients subsequent to amputation and negative thoughts of patients as to prosthesis use make the treatment and care process difficult. This is based on the fact that individuals consider themselves as inadequate due to limb loss, and their self esteem diminishes.^[16] The fact that the nurses, who constitute a major part of the treatment team, have knowledge as to the treatment methods of the patients and their feelings and thoughts as regards the use of the prosthesis in this process can contribute to establishment of a strong therapeutic relationship with the patient and family, evaluation of mental reactions given to amputation through psychoeducation in addition to the increase of self-esteem.

Applications such as dressing and exercise which cause pain lead to patients' avoiding from treatment-oriented practices by reminding them the negative memories as regards the amputation process.^[16] As such, predictions of nurses who provide care for amputated patients that there may be fear of pain and misconceptions behind such emotional reactions may increase the compatibility of patients. In this context, it is important for the nurse to advise and make consultancy to the patient as to the objectives and methods of care.

Mental reactions which are observed in patients frequently in the early post-amputation period, such as decreased self-esteem, fear of future, loss of the feeling of integrity may interrupt the rehabilitation process.^[17] Nurses, in this context, should provide treatment by considering the emotional reactions within their nursing care. An empathic approach to patients in the nursing care provided to amputees can also restore basic feeling of self-confidence.^[18]

Compliance to treatment may be deteriorated when the family's psychosocial problems are reflected to the individual by adversely affecting the healing process.^[19] The nursing care provided by the nurses does not give positive results in cases when the family and community support is not provided. As such, nurses should cooperate for provision of family and community support to patients during the treatment process.

Conclusion

Nurses contribute to the resolution of psychosocial problems experienced by amputated patients inasmuch as they are a part of the multidisciplinary team during the identification of risky individuals in terms of mental disorders,

strengthening of methods as to coping with symptoms emerging in mental disorders or in the use of pharmacological or psychotherapy methods whenever necessary.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship contributions: Concept – N.S., G.K.O., Z.N.N.; Design – N.S., G.K.O., Z.N.N.; Supervision – N.S., G.K.O., Z.N.N.; Materials – N.S., G.K.O., Z.N.N.; Data collection &/or processing – N.S., G.K.O., Z.N.N.; Analysis and/or interpretation – N.S., G.K.O., Z.N.N.; Literature search – N.S., G.K.O., Z.N.N.; Writing – N.S., G.K.O., Z.N.N.; Critical review – N.S., G.K.O., Z.N.N.

References

- Berman A, Snyder S. Fundamentals of nursing concepts, process, and practice. 6th ed. New Jersey: Pearson Education; 2012. p. 906–11.
- Kaya H, Acaroğlu R. Nursing Care of People with Spinal Cord Injury and the Effect of Education on the State of Dependency/Independency and on Self-Care Power. *Türk Nöroşirürji Dergisi* 2005;15:56–68.
- Witsø E, Rønningen H. Lower limb amputations: registration of all lower limb amputations performed at the University Hospital of Trondheim, Norway, 1994-1997. *Prosthet Orthot Int* 2001;25:181–5.
- Şener G, Erbahçeci F. Protezler. 2. baskı. Ankara: Hacettepe Üniversitesi Fizik Tedavi ve Rehabilitasyon Yüsekökol Yayınları; 2001. p. 179–85.
- Dillingham TR, Pezzin LE, MacKenzie EJ. Limb amputation and limb deficiency: epidemiology and recent trends in the United States. *South Med J* 2002;95:875–83.
- Kim YC, Park CI, Kim DY, Kim TS, Shin JC. Statistical analysis of amputations and trends in Korea. *Prosthet Orthot Int* 1996;20:88–95.
- al-Turaiki HS, al-Falahi LA. Amputee population in the Kingdom of Saudi Arabia. *Prosthet Orthot Int* 1993;17:147–56.
- Ziegler-Graham K, MacKenzie EJ, Ephraim PL, Travison TG, Brookmeyer R. Estimating the prevalence of limb loss in the United States: 2005 to 2050. *Arch Phys Med Rehabil* 2008;89:422–9.
- Ege R. Ayak ve ayak bileği sorunları. Ankara: Türkiye Rehabilitasyon Vakfı; 1997. s. 1057–69.
- Yakut Y, Karaduman A, Erbahçeci F, Şener G, Angın S, Algun C. Üst Ekstremitte Amputeleri. *Artroplastik Artroskopik Cerrahi* 1994;5:67–70.
- Terry Canale S, Beaty J.H. Campbell's Operative Orthopaedics. In: Başbozkurt M, Yıldız C, çev ed. 11. baskı. İstanbul: Güneş Tıp Kitapevleri; 2011. p. 561–639.
- Yazıcıoğlu K, Taskaynatan MA, Guzelkucuk U, Tugcu I. Effect of playing football (soccer) on balance, strength, and quality of life in unilateral below-knee amputees. *Am J Phys Med Rehabil* 2007;86:800–5.
- Akdemir N, Bostanoğlu H, Yurtsever S, Kutlutürkan S, Kapu-

- cu S, Canlı Özer Z. Needs of home care services for the bedridden patient's problems living in their home. *Dicle Med J* 2011;38:57–65.
14. 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.
15. Young EE, Unachukwu CN. Psychosocial aspects of diabetes mellitus. *African Journal of Diabetes Medicine* 2012;20:5–7.
16. Nikolajsen L. Postamputation pain: studies on mechanisms. *Dan Med J* 2012;59:B4527.
17. Demet K, Guillemin F, Martinet N, André JM. Nottingham Health Profile: reliability in a sample of 542 subjects with major amputation of one or several limbs. *Prosthet Orthot Int* 2002;26:120–3.
18. Milad MR, Pitman RK, Ellis CB, Gold AL, Shin LM, Lasko NB, et al. Neurobiological basis of failure to recall extinction memory in posttraumatic stress disorder. *Biol Psychiatry* 2009;66:1075–82.
19. Potter BK, Scoville CR. Amputation is not isolated: an overview of the US Army Amputee Patient Care Program and associated amputee injuries. *J Am Acad Orthop Surg* 2006;14:S188–90.