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Impact of duration and social support on anxiety amongst amputees

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Abstract--Background: Anxiety may be defined as “apprehension, uneasiness or tension that stems from an anticipation of danger, which may be external or internal”. Amputation is “A removal of the limb or its part owing to medical causes/reasons”. Low-level of social support, religiosity & self-efficacy, may have a role in commencement and continuation of mental health condition. Empathy & support are imperative for helping amputees to cope-up with an uncertainty, emotions, mobility issues, and to en-able them to adjust to new normality. Objective: The aim of study was to find an impact of duration and social support on anxiety amongst amputees. Study Design: Cross-sectional study. Place and duration of Study: Physical Rehabilitation Centers of Quetta. Duration of this study was 3 months. Methodology: Primary data was taken from all amputees visiting rehabilitation centers, through structured adopted questionnaire “Hospital Anxiety and Depression Scale” (HADS), with the help of trained data collectors along with principal investigator.

Results: 54 subjects were included in this research, of whom. Majority 49 were earning/receiving up to 30000 Pk Rs monthly. Regarding no of dependents, majority (57.5%) had 9 or above no of dependents. Nearly all 98.1% patients had a positive social-support. Maximum amputees 22 (40.8%) were in 6 but less-than 10years categories. Men were more severely affected as 44.7% were in the category of moderate or severe anxiety as compared to 42.8% women. Conclusion: Time since amputation & social support has an impact on degree of anxiety in amputees. Outcomes of this study can also be utilized for prevention planning.

Keywords---amputation, anxiety, duration, social support.

Introduction

Anxiety may be defined as “apprehension, uneasiness or tension that stems from an anticipation of danger, which may be external or internal” ¹. Amputation is “A removal of the limb or its part owing to medical causes/reasons. It becomes obligatory in case of the life-threatening situation or an incurable ailment. 82 per cent of all amputations are caused by peripheral vascular illness, any trauma, or diabetes. These days, folks reporting with anxiety & other mental conditions are expeditiously surging ^{2,3}. About 300-million people worldwide suffer from mental complaints & aren’t living normal lives ⁴. Above 01 billion populace is considered disable world-widely, who suffer lot of physical limitations ⁵

32-84% incidence of psychiatric conditions have been reported, making it one of a highest incidence ⁶. Some investigators ^{7, 5} told that, anxiety & a depression are end-result for each person who loses any part of body and turned-out to be disabled permanently. Furthermore, owing to non-availability of an adequate health facilities, roughly four per cent chances are there that these persons get treatment in un-cordial way/manner from health providers ⁸. Amputation can be life-changing experience for affected persons ⁹. Authors prescribed positive adapting techniques & an assistance of friend-support. The requirement for a psychosocial support, specifically restorative training, is discussed in "Patient instruction after removal: Systematic audit and specialists' conclusions ¹⁰.

Moreover, social support will have an imperative role too, by giving them a required moral courage so as to face daily-life challenges in better way ¹¹. There could be a huge proportion of people who remain stressed, tensed and restless about their future relational-relationship in their professional, familial, social, and conjugal circle ¹². One more investigation proposed that the low-level of social support, religiosity & self-efficacy, may have a role in commencement and continuation of mental health condition ¹³. Resilience had positive relationship with the mental health, & social support serve as the buffer against a negative impact of low-resilience on the mental health ¹⁴. World-widely, primary/leading cause of morbidity is poor mental health. It is costly, may worsen one’s physical health, and furthermore affects both the communities as well as individuals ^{15,16}. We must understand the issues of amputees & support them socially, so that their life’s quality be improved ⁸. To promote/foster quality of life & decrease the

burden, interventions must focus on distress, social support, etc ¹⁷. The aim of study was to find an impact of duration and social support on anxiety amongst amputees

Methodology

Three Main Physical Rehabilitation Centers of Balochistan, were included in this 3 month's (May-July 2018) cross-sectional research, all of them were situated in Quetta city. One was Public center, while the other two were NGOs-based. Primary data was taken from Amputees visited rehabilitation centers, as a result of traumatic and non-traumatic causes. 54 subjects were included in this research. Inclusion Criteria was Upper and lower limb unilateral amputees, newly amputees to 10 years' time since amputation, amputees with non-psychiatric history and background. Exclusion Criteria was amputees from Afghanistan, amputees with bilateral Amputation, amputation due to congenital malformation. Data was collected through structured adopted questionnaire "Hospital Anxiety and Depression Scale" (HADS), with the help of trained data collectors along with principal investigator. Quantitative tool was respondent centered and assisted for any query and questions regarding care of amputees. Collected data was then tabularized & analyzed by applying Chi-square test.

Results

54 subjects were included in this research, of whom, 7 were women while 47 were men. Majority 49 were earning/receiving up to 30000 Pk Rs monthly. Regarding no of dependents, 42.5% partakers had less than nine dependents, however majority (57.5%) had 9 or above no of dependents. Nearly all 98.1% patients had a positive social-support. Table 1 depict socio- demographics of these partakers.

Table 1
Sociodemographic characteristics of participants

CATEGORY	FREQUENCY (PERCENTAGE)
Gender	
Female	7 (13)
Male	47 (87)
TOTAL	54 (100)
Monthly Income (Pk Rs):	
10-20000	36 (66.7)
21-30000	13 (24)
31-40000	4 (7.4)
41 and above	1 (1.9)
TOTAL	54 (100)
No of Dependents:	
2-4	13 (24)
5-8	10 (18.5)
9-12	17 (31.5)
13-16	7 (13)
17 And Above	7 (13)

TOTAL	54 (100)
Social Support	
Negative Social Support	1(1.9)
Positive Social Support	53 (98.1)
TOTAL	54(100%)

Participants had amputation divided in 3 different groups, 16(29.6 %) amputees had less-than 2 years of amputation, 16(29.6 %) 2-5years, maximum amputees 22 (40.8%) were in 6 but less-than 10years categories. Figure 1

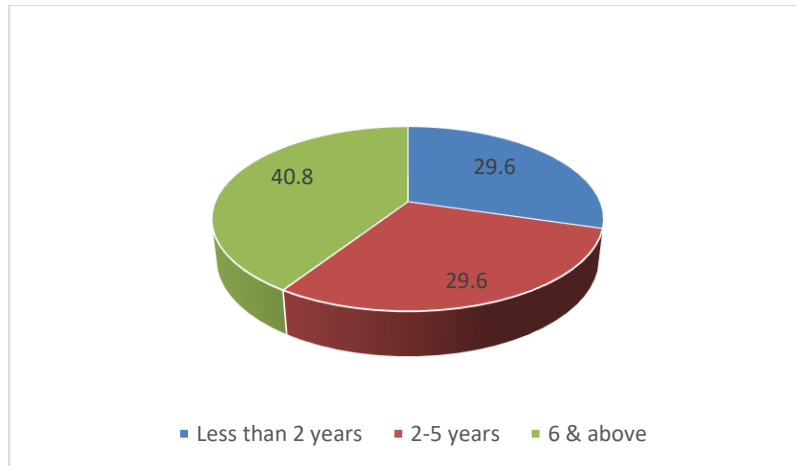


Figure 1. Duration since amputation

Based on HADS, data divulged that 24 (44.4%) had moderate to severe anxiety and 30 (55.6%) were normal or having mild anxiety. There was no significant-relationship of an anxiety with sociodemographics. In case of gender, men were more severely affected as 21 out of 47 (44.7%) were in the category of moderate or severe anxiety as compared to 3 out of 7 (42.8%) women. As shown in table 2

Table 2
Anxiety in relation to socio-demographic categories

Category	Level of Anxiety [N (%)]			Total	p-value
	Normal Mild	or Moderate	Severe		
Gender					
Female	04(13.3%)	0(0)	3(20%)	7(13%)	0.42
Male	26(86.7%)	09(100%)	12(80%)	47(87%)	
Total	30(45.7)	09(30.4)	15(17.4)	54(100%)	
Social support					
Negative social support	0(0%)	0(0%)	1(1.9%)	1(1.9%)	0.38
Positive social support	30(100%)	9(100%)	14(98.1%)	53(98.1%)	

Total	30(55.5%)	9(16.6%)	15(27.77%)	54(100%)	
No of dependents:					
2-4					
5-8	6(20.0%)	2(22.2%)	5(33.3%)	13(24.1%)	
9-12	8(26.7%)	1(11.1%)	1(6.7%)	10(18.5%)	
13-16	8(26.7%)	4(44.4%)	5(33.3%)	17(31.5%)	0.35
17 And Above	6(20.0%)	0(0.0%)	1(6.7%)	7(13.0%)	
Total	2(6.7%)	2(22.2%)	3(20.0%)	7(13.0%)	
	30(55.55%)	09(16.66%)	15(27.8%)	54(100%)	

Results construe that level of anxiety amongst participants reduced as the time duration since amputation increases, regardless of the non-significant relationship b/w duration since an amputation and anxiety. As represented in table 3

Table 3
Anxiety in relation to duration since an amputation

Duration since an amputation	Normal or Mild	Level of Anxiety [N (%)]			P value
		Moderate	Severe	Total	
Less than 2 year	10(33.3%)	1(11.1%)	5(33.3%)	16(29.6%)	0.67
2-5 years	8(26.7%)	4(44.4%)	4(26.7%)	16(29.6%)	
6-10 years			6(40.0%)	22(40.7%)	
Total	12(40.0%)	4(44.4%)	15(27.77%)	54(100%)	
	30(55.55)	9(16.66%)			

Discussion

Research showed that mental modification problems also stood-up in many amputees. Hence, psychological changes among amputees may be perceived as a key medical problem/concern ^{8,11}. Prominent anatomical structures, such as lips,

ear, & nose, are involved usually when patient had a RTA, and these accidents leave psychological impact on patients¹⁸. So, they have to visit dentists, as teeth and oral cavity are also very important for psychological & emotional wellness in addition to speaking & chewing. Patients are also conscious as chances of cross-infection are always there in dental setup¹⁹⁻²⁵. Amputations of lower- extremity are related with decreased life expectancy, poor or lower quality of life, plus high costs for treatment²⁶.

Empathy & support are imperative for helping amputees to cope-up with an uncertainty, emotions, mobility issues, and to enable them to adjust to new normality²⁷. Patients experiencing traumatic amputation could also suffer from "PTSD (posttraumatic stress disorder)" or similar psychological situation. Symptoms could include; insomnia, flashbacks, nightmares, anger outbursts, avoidance, depression, and other challenging behaviors. Health-seeking behavior and entire rehabilitation process is disrupted as a result of psychiatric problems. Thus, it is actually essential to diagnose & recognize presence of mental health problems in these patients before initialing rehabilitation^{8,28}. In this study, men were more severely affected as 21 out of 47 (44.7%) were in the category of moderate or severe anxiety as compared to 42.8% women. This is contradictory to other surveys, where female dominance regarding mental health conditions was noticed^{29,30}.

In this study, statistically insignificant relationship was seen between anxiety and income, which is in line with another research¹¹. This may be because of lack of a social-support, pessimism, financial issues and thinking of not going to attain a job with this new condition. Another examination reported that disabled patient who can't do their previous jobs and faced a loss of salary will have more adjustment issues. Disable folks still don't get the similar access to working opportunities as do their counterparts without disabilities, despite legislation on the diversity in workplace³¹. Being married, lower no of dependents, having family support, absence of basic living security assistance, greater house-holder income level, were associated with an increased job retention³².

One study divulged that a social support is protective against mental health issues³³. In this study, Chi-square test revealed statistically insignificant relationship between anxiety and social support (p value= 0.38). Several other surveys suggest that social-support is linked with low mental health conditions^{34,35}. Mechanisms to detect persons at risk for the social isolation need to be established & implemented in the rehabilitation centers. In a community, access to an ongoing rehabilitation services are needed to optimize/raise mobility outcomes as well as address ongoing psychological needs³⁶. In this research, statistically insignificant relationship b/w anxiety and duration of amputation (p value= 0.67). This is similar to other study, where time since amputation did not correlate significantly with an anxiety score (p=0.473)¹¹.

Conclusion

The longer the time since amputation, lesser the chances of anxiety among amputees, leaving significant impact on degree of anxiety in amputees. Outcomes of this study can also be utilized for prevention planning.

References

1. AlQahtani FA, Bishawi K, Jaber M. Analysis of the pattern of maxillofacial injuries in Saudi Arabia: a systematic review. *The Saudi dental journal*. 2020 Feb 1;32(2):61-7.
2. Asadollahi R, Saghafinia M, Nafissi N, Montazeri A, Asadollahi M, Khatami M. Anxiety, depression and health-related quality of life in those injured by landmines, Ilam, Islamic Republic of Iran. *East Mediterr Heal J = La Rev santé la Méditerranée Orient = al-Majallah al-ihhiyah li-sharq al-mutawassi*. 2010;16(11):1108-14.
3. Baqi A, Zia Q, Shaikh SP, Shoaib M, Javaid MM, Malik MS. Determinants of anxiety in amputees owed to traumatic & non-traumatic causes. *Ann Pak Inst Med Sci*. 2022;18 (3):175-80
4. Bhutani S, Bhutani J, Chhabra A, Uppal R. Living with amputation: anxiety and depression correlates. *J Clin Diagn Res*. 2016 Sep;10(9):09-12. doi: 10.7860/JCDR/2016/20316.8417
5. Bonaccio, S., Connelly, C.E., Gellatly, I.R. *et al*. The Participation of People with Disabilities in the Workplace Across the Employment Cycle: Employer Concerns and Research Evidence. *J Bus Psychol*. 2020; 35: 135-58. <https://doi.org/10.1007/s10869-018-9602-5>
6. Chaudhary FA, Fazal A, Javaid MM, Hussain MW, Siddiqui AA, Hyder M, Alam MK. Provision of endodontic treatment in dentistry amid COVID-19: A systematic review and clinical recommendations. *BioMed research international*. 2021 Dec 3;2021.
7. Coffey L, Gallagher P, Horgan O, Desmond D, MacLachlan M. Psychosocial adjustment to diabetes-related lower limb amputation. *Diabet Med*. 2009;26(10):1063-7.
8. Costa S, Leite Â, Pinheiro M, Pedras S, Pereira MG. Burden and quality of life in caregivers of patients with amputated diabetic foot. *PsyCh journal*. 2020 Oct;9(5):707-15. <https://doi.org/10.1002/pchj.341>
9. Dingfelder HE, Jaffee SR, Mandell DS. The impact of social support on depressive symptoms among adolescents in the child welfare system: A propensity score analysis. *Children and Youth Services Review*. 2010 Oct 1;32(10):1255-61.
10. Ettman CK, Adam GP, Clark MA, Wilson IB, Vivier PM, Galea S. Wealth and depression: A scoping review. *Brain and Behavior*. 2022 Mar;12(3):1-30 <https://doi.org/10.1002/brb3.2486> .
11. Ghous M, Gul S, Siddiqi FA, Pervaiz S, Bano S. Depression ; Prevalence Among Depression ; *Prof Med J*. 2015;22(2):263-6.
12. Griffin JB JR. Anxiety. In: Walker HK, Hall WD, Hurst JW, editors. *Clinical Methods: The History, Physical, and Laboratory Examinations*. 3rd edition. Boston: Butterworths; 1990. Chapter 202. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK315/>
13. Ioannou M, Kassianos AP, Symeou M. Coping with depressive symptoms in young adults: Perceived social support protects against depressive symptoms only under moderate levels of stress. *Front. Psychol*. 2019;2780. <https://doi.org/10.3389/fpsyg.2018.02780>
14. Javaid M, Jamil M, Sajid M. Status of vaccination against hepatitis B among dental assistants of multan. *J Pak Dent Assoc* 2020;29(1):42-45.

15. Javaid M, Sahu EH, Malik A, Khan N, Noor A, Shaukat MS. Practice of Personal Protective Equipment among Dental Surgery Assistants: Survey from a Public Sector Hospital. *Journal of the Dow University of Health Sciences (JDUHS)*. 2020 Aug 30;14(2):66-71.
16. Kashif AW, Walia TS, Salujha SK, Chaudhury S, Sudarsanan S, Raju MSVK, et al. Effect of short-term psychiatric intervention in amputees. *Med J Armed Forces India* [Internet]. 2004;60(3):231-4. Available from: [http://dx.doi.org/10.1016/S0377-1237\(04\)80052-2](http://dx.doi.org/10.1016/S0377-1237(04)80052-2)
17. Khan N, Sartaj R, Sajid M, Jamil M, Javaid M. Patient perception regarding cross infection control; a cross sectional study. *Pak Oral Dent J* 2021; 41(1):15-17.
18. Li F, Luo S, Mu W, Li Y, Ye L, Zheng X, Xu B, Ding Y, Ling P, Zhou M, Chen X. Effects of sources of social support and resilience on the mental health of different age groups during the COVID-19 pandemic. *BMC psychiatry*. 2021 Dec;21(1):1-4. <https://doi.org/10.1186/s12888-020-03012-1>
19. MacKay C, Cimino SR, Guilcher SJT, Mayo AL, Devlin M, Dilkas S, Payne MW, Viana R, Hitzig SL. A qualitative study exploring individuals' experiences living with dysvascular lower limb amputation. *Disabil Rehabil*. 2022 May;44(10):1812-20. doi: 10.1080/09638288.2020.1803999.
20. Mckechnie PS, John A. Anxiety and depression following traumatic limb amputation: A systematic review. *Injury* [Internet]. 2014 Dec [cited 2018 Feb 20];45(12):1859-66. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25294119>
21. Park JY, Park EY. Factors affecting the acquisition and retention of employment among individuals with intellectual disabilities. *Int J Dev Disabil*. 2019 Jun 30;67(3):188-201. doi: 10.1080/20473869.2019.1633166. PMID: 34188899; PMCID: PMC8211137.
22. Reichmann JP, Bartman KR. An integrative review of peer support for patients undergoing major limb amputation. *J Vasc Nurs* [Internet]. 2018;36(1):34-9. Available from: <https://doi.org/10.1016/j.jvn.2017.10.002>
23. Ren P, Qin X, Zhang Y, Zhang R. Is social support a cause or consequence of depression? A longitudinal study of adolescents. *Frontiers in psychology*. 2018 Sep 4;9: 1634. <https://doi.org/10.3389/fpsyg.2018.01634>
24. Richmond-Rakerd LS, D'Souza S, Milne BJ, Caspi A, Moffitt TE. Longitudinal Associations of Mental Disorders with Dementia: 30-Year Analysis of 1.7 Million New Zealand Citizens. *JAMA Psychiatry*. 2022;79(4):333-340. doi:10.1001/jamapsychiatry.2021.4377
25. Rümenapf G, Morbach S. Amputation statistics—how to interpret them? *Deutsches Ärzteblatt Int*. 2017 Feb;114(8):128-9.
26. Sahu A, Sagar R, Sarkar S, Sagar S. Psychological effects of amputation: A review of studies from India. *Industrial psychiatry journal*. 2016 Jan; 25(1):4-10.
27. Sajid M, Jamil M, Javaid M, Sultan M. Hepatitis B Vaccination Status of MBBS & BDS Students in Multan Medical & Dental College, Multan. *Pak J Pub Health* 2018; 8:138-41.
28. Sajid M, Jamil M, Javed M. Vaccination status of dental students of Multan dental college against hepatitis b virus. *J Pak Oral Dent* 2018; 38:513-5.
29. Sajid M, Noreen R, Jamil M, Javed M, Haider E, Ahmad M. Prevalance of Dental Traumatic Injuries in Young Children in Public School of Layyah. *Pakistan Oral & Dental Journal*. 2019 Dec 1;39(4):337-40

30. Schober TL, Abrahamsen C. Patient perspectives on major lower limb amputation—A qualitative systematic review. *International Journal of Orthopaedic and Trauma Nursing*. 2022 Jul 7;46:1-11 <https://doi.org/10.1016/j.ijotn.2022.100958>
31. Shi P, Yang A, Zhao Q, Chen Z, Ren X, Dai Q. A hypothesis of gender differences in self-reporting symptom of depression: Implications to solve under-diagnosis and under-treatment of depression in males. *Frontiers in psychiatry*. 2021 Oct 25; 12:1-10. <https://doi.org/10.3389/fpsy.2021.589687>
32. Şimsek N, Küçük Öztürk G, Nahya ZN. The Mental Health of Individuals with Post-Traumatic Lower Limb Amputation: A Qualitative Study. *Journal of Patient Experience*. 2020, Vol. 7(6) 1665-1670
33. Terry Canale S, Beaty JH. *Campbell's Operative Orthopaedics*. Başbozkurt M, Yıldız C, çeviri editörleri. Güneş Tıp Kitapevleri, 11. 2011:561-639.
34. WHO | Depression. WHO [Internet]. 2017; Available from: <http://www.who.int/mediacentre/factsheets/fs369/en/> (accessed on May 2021)
35. WHO | Disability and health. WHO [Internet]. 2018; Available from: <http://www.who.int/mediacentre/factsheets/fs352/en/> (accessed on May 2021)
36. Zhao L, Han G, Zhao Y, Jin Y, Ge T, Yang W, Cui R, Xu S, Li B. Gender differences in depression: evidence from genetics. *Frontiers in genetics*. 2020 Oct 15;11: 1-15 <https://doi.org/10.3389/fgene.2020.56231>