



Original Research Article

Psychiatric profile, depression and body dysmorphic disorder in patients with amputation

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ARTICLE INFO

Article history:

Received 04-06-2020

Accepted 05-07-2020

Available online 18-09-2020

Keywords:

Depression

Anxiety

Body dysmorphic

Amputees

ABSTRACT

Introduction: Amputation due to trauma is a catastrophic injury and causes major disability in most of the cases. Loss of limb is associated with low self-esteem, body image disturbance, social isolation and also a sense of stigmatization. In many conditions amputation is unavoidable. Irrespective of the aetiology, amputation is considered as a mutilating surgery and it affects the lives of the patients. Limb amputation is a more commonly occurring event in the present society. In this present study, we are going to study socio-demographic profile and psychiatric morbidities of patients with amputation.

Materials and Methods: In cross sectional study, a total of 30 consecutive patients with amputation were chosen and assessed within the period of two to six weeks after amputation.

Results: Our results showed that psychiatric morbidity is high in amputated patients. High scores of depression and anxiety were found in all patients and also considerable percentage of the sample had a high score on Body Dysmorphic disorder rating scale too.

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1. Introduction

Amputation is defined as the removal of extremities of body part by trauma or by surgical procedure. Amputees may feel empty and mutilated. Amputation due to trauma is a catastrophic injury and causes major disability in most of the cases.¹ Loss of limb is associated with low self-esteem, body image disturbance, social isolation and also a sense of stigmatization.¹ In many conditions amputation is unavoidable. Irrespective of the aetiology, amputation is considered as a mutilating surgery and it affects the lives of the patients.² Limb amputation is a more commonly occurring event in the present society.

The loss of a limb distorts the individual's body image leading to the thought of not being a complete human being. The amputee not only loses physical functioning, but he also loses hope and future aspirations, his plans and ambitions get shattered. Thus, he loses not only a limb but also a part

of his world and future. Most of them remain anxious and worried about their interpersonal relationship in the social, vocational, familial and marital milieu.

Studies show that 20-60% of the amputees attending follow up clinics are assessed to be clinically depressed.³ Individuals with traumatic amputation irrespective of the age are likely to suffer from body image problems, but these findings are more common in younger individuals. In adults, the age at which an individual receives the amputation is an important factor. Studies by Bradway JK et al (1984),² Kohl SJ Et al (1984),³ Livneh H (1999),⁴ on the psychosocial adaptation to amputation has led to a plethora of clinical and empirical findings. Kingdon D et al 1982⁵ equated amputation with loss of one's perception of wholeness, while Parkes CM 1976⁶ with loss of a spouse and Block WE et al 1963⁷ with symbolic castration & even death.

Most patients with a limb loss irrespective of whether due to traumatic injury or surgical procedures go through a series of complex psychological reactions reported by

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Cansever et al (2003).⁸ Most people try to cope with it, those who don't succeed, develop psychiatric symptoms (Frank et al (1984).⁹ Shukla et al noted that psychological intervention in some form is needed in about 50% of all amputees, and reported depression to be the most common psychological reaction following amputation.³

The three major problems faced by many amputees are anxiety, depression and physical disability (Green 2007)

Horgan & MacLachlan (2004)¹⁰ found that anxiety is associated with depression, low self-esteem, poorer quality of life and a higher level of general anxiety. Both anxiety and depression are associated with higher disability as age increases.

Body image is the combination of psychosocial adjustment and attitude of the individual that are related to the function and appearance of one's own body which can be influenced by the individual and his environmental factors (Horgan & MacLachlan 2004).¹⁰ Each person has an idealized body image, which he uses for measuring perceptions and concepts of his or her own body (Fishman, 1959).¹¹ According to Newell (1991),¹² previously attractive people after amputation will receive less reinforcement from others leading to low self-esteem and reduced positive self-image. Jacobsen et al (1997) supports this stating i.e. amputation leads to disfigurement which in turn leads to a negative body image and greater loss of social acceptance. The reason for the amputee's subjective perception of being unfit for the society probably is that body image provides a sense of "self" and also affects the persons thinking (Wald 2004).¹ According to Kolb (1975),¹³ changes in body image may cause a series of psychological reactions.

The psychiatric aspect of amputation has received scant interest in our country, despite accidental injuries being common (Shukla et al., 1982).¹⁴ The commonest psychiatric disorder seen in amputees is major depression. Randall et al.(1945)¹⁵ have reported an incidence of 61 % in non-battle casualties, while Shukla et al. (1982)¹⁴ found depressive neurosis (40%) and psychiatric depression (22%) to be the leading psychiatric disorders in amputees. The paucity of literature in this field has prompted us to study about amputation and its comorbid psychiatric conditions so that proper care & management for the patients can be planned. The present study was undertaken with the aim of studying the psychiatric problems especially anxiety, depression and Body Dysmorphic Disorder which may be associated with disability or changed life circumstances in the immediate post-amputation period.

2. Aim

To Study the Psychiatric profile, Depression, anxiety and Body Dysmorphic Disorder in patients with Amputation.

3. Objectives

1. To study the incidence of psychiatric morbidity in patients with amputation
2. To Study the incidence of depression in amputees.
3. To Study the incidence of anxiety in amputees.
4. To Study Body Dysmorphic Disorder in amputees.
5. To Study the socio-demographic variables of patients with amputation.

4. Materials and Methods

4.1. Setting of study

The study was carried out in out-patient and in-patient Department of Orthopaedics, Surgery, BGS Global Institute of Medical sciences.

4.2. Period of study

From June 2019 to December 2019 (7 months).

4.3. Design of study

Cross sectional study

4.4. Selection of sample

A total of 30 consecutive patients with amputation were chosen and assessed within the period of two to six weeks after amputation.

4.5. Inclusion and exclusion criteria

4.6. Inclusion criteria

Patients who underwent elective as well as emergency amputation.

Age between 18 years to 60 years.

4.7. Exclusion criteria

Patients with age less than 18 years and with age more than 60 years

Previous history of psychiatric illness

Patients with other medical illness

4.8. Tools used

1. A structured interview schedule to study the demographics, clinical features and other relevant factors in history.
2. General Health Questionnaire (GHQ-28)
3. Hospital Anxiety and Depression Scale (HADS)
4. Hamilton Depression Rating Scale (HDRS/HAM-D)
5. Yale Brown Obsessive Compulsive Scale for Body Dysmorphic Disorder (YBOCS-BDD)

4.9. Procedure

A total of 30 patients with amputation were consecutively chosen and assessed between the period of two to six weeks after amputation. A written informed concern was obtained before evaluation. HAMD, BPRS, HADS, GHQ-28, YBOCS-BDD scales were administered after clinical evaluation.

5. Observations and Results

5.1. Socio-demographic characteristics of cases and control groups

Table 1: Age distribution

Age Group	Amputation	
	N	%
20 – 25	3	10.00
25 – 35	11	36.70
35 – 45	7	23.30
45- 55	3	10.00
55- 60	6	20.00
Total	30	100

Mean Age is 39 years and the standard deviation is 13. Regarding sex ratio, out of 30 patients, 25 were male and 5 were female patients, regarding marital status 22 were married, 6 were unmarried and 2 patients were divorced. 6 patients were illiterate and the remaining 24 patients were literate.

Table 2: Sociodemographic variables

Variables	Amputation (n=30)	
	N	%
Sex distribution	Male	25 83.30
	Female	5 16.70
Occupational status	Semi Skilled	20 66.6
	Skilled	7 23.3
	Unemployed/dependent	3 10
	Retired	0
Religion	Hindu	27 90.00
	Christian	3 10.00
Education	Muslim	0 -
	Illiterate	6 20.00
Socio economics status	Literate	24 40.00
	≤ 5000	23 3.30
Marital status	5001-10000	7 23.30
	Married	22 73.30
Social support	Unmarried	6 20.00
	Divorced	2 -
	Negative	3 10.00
	Positive	27 90.00

In cases, the majority were with lower limb amputation 90% and in that 81.48% were below-knee amputation and

Table 3: Amputation level

	Amputation	
	Number	Percentage
Rt. AE	1	3.33
Rt. BE	1	3.33
Rt. AK	3	10.00
Rt. BK	15	50.33
Lt. AE	0	00
Lt. BE	1	3.33
Lt. AK	2	6.7
Lt. BK	7	23.33
Total	30	100

18.52% were above-knee amputation.

Table 5 In a depression rating scales, out of 30 patients 22 patients scores high on HADS-D scale and 29 patients scores high on HAM-D scale, regarding anxiety only 11 patients found to have abnormal score. 2 patients have elevated scores on YBOCS scale for BDD.

Table 6 GHQ 28 score indicates there is significant distress in all areas.

6. Discussion

Many studies have investigated the psychiatric morbidity among the amputees and majority of which mainly focused on depression and anxiety. Even our study, focused more on the same psychiatric co-morbidities.

In our study, 73% of amputees on HADS–D and 96% on HAM-D were having scores suggestive of depression and 36.5% on HADS-A showed scores suggestive of anxiety (Anxiety). Among the depressed individuals in our study, 43% had mild depression and 53% had moderate to severe depression, Our results were in accordance with the study done by Shukla et al (70.2%)¹⁴ and similar findings have also been reported by Rendal et al. Anxiety scores assessed were similar to the results shown from previous studies done by Funkunishi et al 33.9% and also supported by other studies done by Kashani et al 1983,¹⁶ Atherton et al 2006 and Seidel et al 2006.¹⁷

Several studies concentrated on certain sociodemographic factors such as age, sex, social support, time since amputation and level of amputation. According to kingdom and Pearce (1982)⁵ and also Cansever et al (2003),⁸ age, sex, type and level of amputation had influence over the psychological reactions. But, our study did not show any similar findings. Yet another study done by Singh et al (2007),¹⁸ reported that age, gender and other sociodemographic factors had no influence on any psychiatric morbidities.

Gender had no impact on psychiatric morbidities in most of the studies [Bradway et al 1984,² Williamson and Walter at al 1996] while in contrary Kashani et al 1983¹⁶ and O Toole et al 1984 reported that women are more likely

Table 4: Psychiatric morbidity

Psychiatric condition		Normal		Abnormal	
		N=30	%	N=30	%
Depression	HADS-D	8	27	22	73
	HAM-D	1	4	29	96
Anxiety		19	63	11	37
	BDD	28	93	2	7

Table 5: Scores on scales

Scale		Mean	SD	Severity (N=30)		
				Mild	Moderate	Severe
Depression	HADS-D	12	4	11	6	5
	HAM-D	14	5	13	12	4
Anxiety	HADS-A	6	4	7	2	2
	YBOCS	4	4	2	0	0

Table 6: GHQ -28

Items	Amputation Mean \pm SD
Somatic symptoms	15.90 \pm 1.49
Anxiety/insomnia	16.90 \pm 1.99
Social dysfunction	15.77 \pm 2.89
Severe depression	17.23 \pm 2.24

to experience depression.

Few studies quote that patients belonging to younger age group suffer more than the older. (Ward et al and Dunn's et al 1996),^{1,19} Most of the participants in our study were less than 35years old, but we did not any statistically significant differences.

Coming to the precipitating factor for the psychiatric morbidity, many studies report that traumatic amputees have higher anxiety and depression than amputation due to any secondary diseases.²⁰ But, in our study, all the individuals selected were of traumatic aetiology, so we were not able to find any difference between traumatic and non-traumatic amputees. Studies Also, say that lack of social support has an impact on the prevalence of depression (Engstorm et al 2001 and Darnal et al 1996) and that increased social isolation is associated with a higher level of depression (Williamson et al 1984, Thomson et al 1984) which was also supported by another study done by Rybarczyk et al,²¹ but our study did not bring out any such reflections

Several studies established a relationship between time since amputation and depressive symptoms. Depressive symptoms are higher during the initial period of amputation and gradually decline in the latest stages. Singh et al reported a rapid decrease in the symptoms of depression and anxiety after a period of inpatient rehabilitation.¹⁸

In our study, we could not establish any relationship between time since amputation and depressive symptoms this could be because all data (samples) are taken within 6 weeks of amputation since the patient was interviewed in the treatment setting. Further follow up is needed after proper social interaction of the individual which is possible

after the discharge from the hospital.

Another factor is the level of amputation. In our sample out of 30 only 3 (10%) had upper limb amputated and 27 (90%) had lower limb amputation. Among the lower limb amputees²² 73.3% had below-knee amputation and 16.7%⁵ had above-knee amputation done.

6.6% of the amputees in our study scored high (abnormal) on YBOCS – BDD. This could be explained by the factors that, most of the individuals staying in the hospital and restricted in their activity and were not completely exposed to the external world after their amputation, further follow up is needed to reveal the real picture in this topic.

7. Summary

The present study has attempted to study the psychiatric morbidity, mainly concentrating on socio-demographic variables, anxiety and depression in patients who have underwent amputation following trauma. Our results showed that psychiatric morbidity is quite high in such patients. Severity of Depression and anxiety in them were quite significant. Also, a considerable percentage of the sample has a high score on Body Dysmorphic disorder rating scale indicating the presence of body dysmorphic disorder.

8. Conclusion

The high prevalence of depression among amputees in current study indicate that the clinicians should be sensitive

to detect early symptoms of depression which can help improve the long term prognosis and better outcomes. The current study focused mostly on the sociodemographic, clinical factors, quality of life associated with depression and anxiety among the amputees. Future studies could incorporate more and more causes found to be in relation to depression and anxiety such as coping skills, the severity of pain and disability, personality type etc. Also, a bigger sample size with control group would help generalize the results over a wide population.

9. Source of Funding

None.

10. Conflict of Interest

None.

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Cite this article: Harsha G T , Kumar KS A. **Psychiatric profile, depression and body dysmorphic disorder in patients with amputation.** *IP Indian J Neurosci* 2020;6(3):158-162.