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PSYCHOLOGICAL REACTION TO IMPAIRMENT/DISABILITY AND COPING IN PATIENTS WITH LOWER LIMB AMPUTATION

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A R T I C L E I N F O

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A B S T R A C T

Background: Lower limb Amputation is distressing and needs psychological adjustment. Psychopathology is common in such patients.
Aims & Objectives: To assess commonest reactions to amputation, coping strategy used and correlation between reaction to impairment/ disability and coping mechanism used by lower limb amputation patients.
Methodology: 34 recently amputated patients were assessed using Reaction to impairment and disability inventory (RIDI) after amputation and Brief COPE scale after 1 month. Obtained data was analyzed statistically.
Results: Commonest Reaction to amputation is Depression, least common is Externalized hostility. Commonest coping strategy is Religion, least common is substance use. Patients use denial as a coping to Shock, Anxiety and Depression. Internalized anger leads to increased self-blaming.Externalized hostilityis positively correlated with Substance abuse and denial.Use of Emotional support, Active coping, Positive reframing, Planning, Humor, and Religion are used in Acknowledgement and Acceptance to Amputation.
Conclusions: Denial to amputation can lead to clinical depression, anxiety. Use of positive coping strategies can help in acceptance and acknowledgement to amputation.

INTRODUCTION

Amputation is Permanent loss of a part of one's body. However the loss of limb is a life changing event that can have a significant physical, psychological and social impact on a person's day to day existence.

Irrespective of the cause of amputation, it brings a significant and drastic change in a person's life, and one goes from a stage of shock, to acknowledgement, and finally adjustment.(1) Previous studies like Randall *et al* and Hawamdeh ZM& others have shown high rates of depressive symptoms after amputation with prevalence of 40-60%. (2)

Limb loss is one of the most physical and psychologically devastating events. Therapist are only concerned for occupational rehabilitation, reimbursement, independent functioning of patient, no one stresses about emotional, psychological or mental rehabilitation.

The purpose of this study is to understand the way patients experience and deal with the life altering event, the psycho-social reaction and adjustment in amputation by medical or traumatic cause. If the adaptive response to this event is faulty it would lead to adverse effect on individual self-worth; if the initial faulty coping can be recognized and corrected, further worsening of mental health can be prevented.

METHODOLOGY

Prior permission from Ethics committee was taken to start the study.All patients who had recently undergone lower limb amputation in surgery and orthopedic departments were screened. 34 consecutive Patients who had no history suggestive of past psychiatric illness, no acute stress reaction were included after taking informed consent.The interview was conducted by a single interviewer, to eliminate interviewer bias. The interview consisted of a semi-structured preformat which included demographic factors, illness variables and psycho-social variables.The patients were then asked questions mentioned in the 'Reaction To Impairment And Disability Inventory (RIDI)' to asses for the immediate reaction to the disability or impairment.After a period of 20 days to one month, on the patients' next follow up, they were asked questions mentioned in the 'Brief Cope Scale' to assess for the coping strategies in use. The data was then organized and analyzed quantitatively by ratification of scales.

RESULTS

In our study out of the 34 total subjects 29 were males and 5 were females.There were 30 married and 4 unmarried subjects. 21 subjects had undergone amputation due to medical reasons while 13 due to traumatic causes.

According to RIDI scale, the most common reaction for both the genders and marital status was Depression and the least common reaction was Externalized Hostility. The most common reaction in medical cause was Adjustment and in Traumatic patients was Depression.

According to Brief cope scale the most common coping strategy used was Religion in both genders.From etiology perspective the most common coping strategy used in

amputation dueto medical cause was Religion followed by use of Emotional support while in traumatic cause, most common was Religion followed by use of Instrumental support.

The correlation between factors of RIDI scale and the Brief Cope Scale is given in table 1.

In Anxiety and Depression reaction, patient uses denial as a coping strategy to amputation. In reaction to internalized anger there is increased self- blaming for the amputation. Externalized hostilityis positively correlated with Substance abuse and denial. In cases of Acknowledgement and Acceptance, coping mechanisms like use of Emotional support, Active coping, Positive refraining, Planning, Humor, Acceptance and Religion are seen.

Correlation of RIDI scale and Brief Cope scale using Pearson R value

RIDI scale → / Brief COPE scale ↓	Shock	Anxiety	Depression	Internalized Anger	Externalized Hostility	Acknowledgment	Adjustment
Self-Distraction	NS	NS	NS	NS	↓	NS	NS
Active Coping	↓	↓	NS	NS	NS	↑	↑
Denial	↑	↑	↑	NS	↑	↓	↓
Substance Use	NS	NS	NS	NS	↑	↓	NS
Emotional Support	NS	NS	NS	↓	↓	↓	NS
Positive Reframing	↓	↓	↓	↓	↓	↑	↑
Planning	↓	↓	↓	↓	↓	↑	↑
Humor	↓	NS	NS	NS	NS	NS	↑
Acceptance	↓	↓	↓	↓	↓	↑	↑
Religion	NS	NS	↓	NS	NS	↑	↑
Self-blame	↑	↑	NS	↑	NS	NS	NS

DISCUSSION

In this study the type of reaction shown by the patient to disability caused by amputation was assessed along with the coping strategies adopted by the patients.

The RIDI scale suggests that the most common reaction in amputation patients is depression. It reflects full realization of the incurred or impending loss of one's prior physical power and functional capabilities, stemming from the permanency and degree of severity of the sustained impairment. The least common reaction used in response to amputation is externalized hostility in which anger is outwardly-directed and is manifested in hostile thoughts and behaviors toward other people, objects, or other aspects of the external environment. Depressive symptomatology is the commonest mood disturbance noted in patients of amputations. Studies suggest that between 13% to 32% of individuals with amputation experience depression.(3)(4)(5) Disparities in such estimates are attributed to methodological differences in assessing depression and diversityof study sample.(6) The findings in our study of depression being the most common reaction in amputation is similar to the findings seen in study by Trivedi *et al*.(7)

In our study we tried to throw some light on common coping strategies used by these patients using the Brief Cope scale. The most common coping strategy used was of Religion followed by Use of Emotional support and least used was substance use. Religion and Spirituality as a resource of copinghave only recently received increasingly more attention.(8) While the benefits of religious involvement for both physical and mental health is well documented, Religion is used with other coping strategies as a loading factor, Religion in itself is a unique and independent strategy used.(9) Studies find increased acceptance of spirituality's potentially positive role in psychiatric rehabilitation and recoverythrough identifying spiritual interests; offering spirituality based group discussions; using spiritual dimensions of psychotherapy; and facilitating interaction with religious communities and spiritual resources.(10)

Positive coping strategies include active coping, planning, acceptance, humor, and positive reframing.

Maladaptive coping strategies include denial, behavioral disengagement, use of alcohol, self-blame and venting out are part of avoidance strategies. Use of emotional and instrumental support are part of support strategies and religion can be considered as independent strategy in itself.(11)

The correlation between variables of RIDI scale and Brief cope scale in our study showed that use of maladaptive coping strategy of denial is increasingly used in patients of shock and feelings of acceptance of the impairment are decreased. Similarly in anxious and depressed mood reactions in amputeesshowed use of maladaptive coping strategies than use of positive coping strategies. Acknowledgement and Adjustment with impairment due to amputation brings out use of better positive coping strategies like positive reframing and planning and decreased use of maladaptive strategies, it mostly reflects a more adaptive cognitive recognition or intellectual acceptance of the reality of the condition as well as behavioral adaptation and social reintegration into a newly perceived life situation.

In accordance with the broader literature on coping, use of positive coping by positive reframing of thoughts and planning; and problem focused approach seems to be more adaptive than the avoidant and emotional oriented approaches accompanied by reactions like anxiety, depression, denial.

The findings which we found in our study are similar to the study done by Livneh and colleagues, they found that active problem solving was negatively associated with symptoms of

depression and internalized anger and positively related to adjustment to disability**.**(12)

CONCLUSIONS

The reaction and coping strategy are not affected by socio-demographic variables like gender, marital status and etiology. The most common reaction in patients of lower limb Amputation is Depression and the least common was externalized hostility.The most common coping strategy used was Religion and least common was substance use.Reaction of Shock, Anxiety, and Depression positively correlated with Maladaptive coping strategies and Reaction of Acknowledgement and Adjustment correlated with Positive coping strategies. Our findings will help to assess the patients' levels of reaction and their corresponding active strategy used for psychosocial adaptation to amputation, which might pave the way to appropriate selection of intervention strategies. This correlation will offer the counselor fertile ground for applying various approaches to meet the wide range of psychological, social, and vocational needs of patients with amputation.

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