

PSYCHOSOCIAL ASPECTS OF AMPUTATION

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ABSTRACT

Twenty-five subjects were studied who had undergone amputation 6 months to 2 years prior to the time of assessment. The sample was divided into sick (those having psychiatric illness) and non-sick (those without any psychiatric illness) groups, and then compared for various life events following the amputation. It was seen that those who were labelled as psychiatrically sick had more work impairment, change in job, socioeconomic difficulties and social avoidance. The latter two factors were also significantly more in right upper limb amputees than the left upper limb amputees; no such difference existed between the upper and lower limb amputees.

Key words : Amputation, psychosocial aspects

The impact of amputation varies with the individual. Some are not affected much, whereas others experience a significant change in their temperament (Kelham, 1958). These changes can be summarized as follows: (a) fear of dependency, change of job and/or disturbed family or social life; (b) an attitude of defiance, which is not always stable, to overcome the problems; (c) acceptance of the fact and search for compensatory factors; and (d) aggression, with grudge directed against the society for treating them unfairly.

The changes in the personality following amputation have been well studied. As a function of age, older amputees display less psychopathology than the younger ones (Frank et al., 1984); younger amputees (15-25 years of age) have more introvert features as opposed to extrovert features in slightly older amputees (age 26-40 years) (Prasad et al., 1971); increased alcohol intake, and religious feelings in amputees (Randall et al., 1945); a

higher score on neuroticism and extroversion in amputees than in normal controls (Bhojak & Nathawat, 1988) are few of the established findings in this regard.

This change in the personality structure, coupled with limitation of losing a limb, is reflecting in the socio-occupational standing of the patient. In west, this factor is minimized to some extent owing to availability of better rehabilitation services including prosthesis. However, in our country, these facilities are neither so efficient nor conveniently available. The Indian literature in this regard is impecunious (Shukla et al., 1982a,b).

This study was undertaken with the aim of assessing the major life events following amputation.

MATERIAL AND METHOD

The sample was derived from the outpatient clinic of Department of Physical Medicine & Rehabilitation of this tertiary care centre (K.G. Medical College, Lucknow). It comprised of

TABLE
MAJOR LIFE EVENTS

| Life Events # | Sick (N=9) % | Non-Sick (N=18) % | Fisher's Probability p-value | RUL (N=6) % | LUL (N=4) % | LL (N=15) % | Fisher's Probability RUL Vs. LUL UL Vs. LL p-values |
|----------------------------------|--------------------|-------------------------|------------------------------------|-------------------|-------------------|-------------------|---|
| Death of parent | 11.1 | 5.5 | .897 | 16.7 | 0.0 | 6.7 | .600 .65 |
| Separation from parents/siblings | 22.3 | 0.0 | .602 | 0.0 | 0.0 | 13.3 | - .35 |
| Change in marital status | 22.3 | 0.0 | .602 | 16.7 | 0.0 | 6.7 | .600 .65 |
| Impairment in work performance | 88.8 | 16.7 | .001* | 66.6 | 0.0 | 40.0 | .070 .569 |
| Becoming unemployed | 33.3 | 0.0 | .005* | 33.3 | 0.0 | 6.7 | .531 .346 |
| Change in job | 66.7 | 12.5 | .0005* | 50.0 | 0.0 | 26.7 | .357 .044 |
| Socioeconomic difficulties | 100.0 | 33.3 | .001* | 83.4 | 0.0 | 60.0 | .023* .243 |
| Decline in income | 100.0 | 50.0 | .010* | 83.3 | 0.0 | 80.0 | .023* .128 |
| Social avoidance | 44.4 | 5.5 | .030* | 16.7 | 0.0 | 26.7 | .600 .108 |

UL = Upper limb, LL = Lower limb

RUL = Right upper limb, LUL = Left upper limb

* Significant

^a Excludes one student and one housewife; the percentage in the non-sick group has been calculated taking N=16

[#] All the comparisons were made considering the presence or absence for each of the items listed

patients who had undergone amputation 6 months to 2 years previously, and had come for rehabilitation.

Those patients who were between the ages of 16 to 55 years were inducted in the study. All the patients were administered structured clinical interview of DSM-III-R (Spitzer *et al.*, 1989). The sample was divided into two groups - sick (those who could be given a DSM-III-R diagnosis) and non-sick (those subjects who had no psychiatric illness). The subjects were also assessed on a proforma to evaluate their psychosocial problems; the proforma was borrowed from Psychiatric and Personal History Schedule -II (PPHS-II) (WHO, 1979).

RESULTS

A total of 29 patients were screened, out of which 25 were finally inducted in the study; 4

patients were excluded for various reasons (2 patients had a psychiatric disorder before the amputation was performed, and other 2 had undergone bilateral amputation). Males (n=24) dominated the sample as compared to female (n=1), and majority of the patients were in the age group 16-25 years. There was no statistically significant difference between the two groups regarding the sociodemographic variables. The details of the sample are described elsewhere (Trivedi *et al.*, 1997).

The two groups-sick and non-sick, differed significantly on few parameters only viz. decline in work performance, change in job, socioeconomic difficulties, decline in level of income and social avoidance, all of which were more in the sick group. However, a change in the marital status and becoming unemployed, although did not reach statistically significant levels, were also more in the sick group.

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The same parameters when pitted with the site of amputation, it was seen that right upper limb (RUL) amputees had significantly more socioeconomic difficulties and fall in income, as compared to left upper limb (LUL) victims. Similarly, upper limb amputees as a group had more problems in marital status, work, unemployment, job changes and socioeconomically than lower limb (LL) amputees, who, in turn, exhibited avoidance more often however, none of these differences attained a statistically significant level.

The use of artificial aid differed significantly between the 2 groups (Fisher's Probability test $p=0.014$); none of the patients in sick group, and only 50% in the non-sick group were using artificial aids following amputation (Prosthesis = 4 [22.2%], Crutches = 5 [27.8%]).

DISCUSSION

A series of complex psychological responses is denouement of amputation. While many people adjust to this catastrophe, others are unable to adapt themselves and subsequently develop psychiatric symptoms. Randall et al. (1945) reported problems in social adjustment following amputation in 40% subjects. Other authors (Hughes & White, 1946; Gingras et al., 1956) have reflected on the low rate of employment found among amputees.

Significantly more amputees in the sick group had impairment in work performance, job change, socioeconomic difficulties, decline in level of earned income and avoidance from neighbours, as compared to the non-sick group. The possible reason could be that these individuals besides having amputation of limb (s), were also suffering from psychiatric illness, hence leading to greater impairment in their work performance. As a result of which they might have had to change their jobs to a lower category leading to further socioeconomic difficulties and decline in level of earned income. All these psychosocial changes might further worsen the psychiatric morbidity, or vice-versa.

The right upper limb amputees had significantly more socioeconomic difficulties and decline in earned income as compared to

left upper limb amputees, possibly as these subjects were right handed, and amputation had resulted in lower performance levels. This reflects that these changes depend on the importance of the amputated limb for the patients.

The use of prosthesis was limited, in our sample exclusively in the non-sick group. At present, it is difficult to attribute any explanation to it; however, possibly it could be that the use of a prosthesis had decreased the level of psychopathology substantially so that it could not be picked up, or the other way round, that is the psychiatric ailment had precluded the use of prosthesis.

From an applied clinical point of view this area is important for preventive measures. Timely recognition and appropriate intervention could drastically improve the future life of the patient. At different stages, psychological, occupational and social rehabilitation would go a long way in refuting the psychological disability, boosting their morale and increasing the motivation for rehabilitative efforts.

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