

**Original Article**

To Study the Prevalence of Psychiatric Symptoms in Patients to Study the Prevalence of Mental Disorder among Study and in Control Group by Using DSM-IV-TR Criteria Attending Burn Plastic Surgery OPD Hamidia Hospital, Bhopal

Authors

Dr Vijay Nandmer, Dr Ajay Nandmer**Introduction**

Relation of psychological issues and aesthetic surgery has been well established in the literature. The conflict persists as to whether patients possess psychological stability or psychiatric disorders^[1]. The psychological profile of a person admitted for aesthetic surgery could affect the outcome adversely such as delayed return to work, poor patient compliance, dissatisfaction with the surgical outcome and quality of life^[2]. It is necessary for plastic surgeons to give attention to the psychological status of the patient because improvement in surgical success could be achieved if the patient understand himself well in the pre-operative and post operative period^[3] for example – when people are affected by a severe trauma, such as burns, they arouse in other a natural desire to help them. Traditionally, physicians have tended to concentrate on the body and on patients' physical suffering, neglecting the care of their psychic disturbances, which are often as severe and invalidating as the physical sequelae-indeed they may ultimately be even be more severe -leaving this aspect of care in the hands of certain highly meritorious but not necessarily professional figures who are always present in hospital wards^[4]. In recent years, health

psychologists have paid increasing attention to psychological adjustment associated with perceived abnormalities of appearance (eg., patients with burns, cleft lip/palate, vitiligo)^[5]. Research indicates that having a disfigured appearance is likely to elicit avoidant and socially awkward behaviour in others. Individuals are prone to suffer problems including, depression, anxiety, shame and interpersonal difficulties^[6]. “Normal people don't get burned” is a widely used saying in the English speaking burn community implying that people who are afflicted by burn injury always have similar underlying social factors or backgrounds. It is clear that the risk of being burned is considerably higher in some individuals. Present study is conducted scientifically & systemically using the DSM-IV TR (Diagnostic & statistical manual of mental disorder of American Psychiatric Association 2000) for studying the prevalence of psychiatric disorder in study as well as in control group.

Aims & Objectives

- To study the prevalence of psychiatric symptoms in patients attending plastic surgery OPD Hamidia Hospital, Bhopal.

- To study the prevalence of mental disorder among study and in control group by using DSM-IV-TR criteria.
- To study the psychosocial aspects of study among control group subjects.

Material & Methods

This is Hospital Based Study. The study group included 100 patients attending plastic surgery OPD without any age restriction.

Methodology

The study method overtured made from OPD. The present study also includes cases from burn ward who admitted for treatment purposes. The patient asked whether they would be interested in being enrolled in the study. The study presented as a research study including an interview about mood, psychiatric symptoms and psychosocial aspect of patient. If patients agreed and gave written consent then only the patient were included. A

specially designed proforma is prepared to collect the details of these subjects.

Psychiatric Assessment

Psychiatric diagnosis is established by consultant psychiatry using the structured clinical interview for the diagnostic and statistical manual of mental disorder 4th edition (SCID, DSM-IV-TR) as approved by APA.

Inclusion Criteria

All patients attending plastic surgery OPD Hamidia Hospital, Bhopal.

Exclusion Criteria

Subjects with associated medical problems like hypertension, kidney, liver and chronic respiratory problems were excluded from the study group. Control group consists of attendant of the patients who visit hospital for the various problems to different department of OPD.

Observations

Table : 1 Age And Sex Distribution (N=100)

Age Group (In Year)	Study Group (n=100)				Control Group (n=90)			
	Male(n=54)		Female(n=46)		Male(n=49)		Female(n=41)	
	No.	%	No.	%	No.	%	No.	%
0-10	6	6	4	4	0	0	0	0
11-20	17	17	12	12	16	17.7	11	12.22
21-30	13	13	15	15	14	15.55	15	16.66
31-40	6	6	6	6	8	8.88	7	7.77
41-50	7	7	4	4	7	7.77	4	4.44
51-60	3	3	5	5	4	4.44	4	4.44
61-70	1	1	0	0	0	0	0	0
71-80	1	1	0	0	0	0	0	0

In study group, total 100 patients included, of which 54 (54%) were males and 46 (46%) were female. The largest group comprised of 11-20 years age group which included 17 (17%) males and 12 (12%) female, to a total of 29 (29%).

In control group, total 90 patients included, of which 49 (54%) were males and 41 (45.55%) were female. The largest group comprised of 21-30 years age group, which included 14 (15.55%) males and 15 (16.66%) female, to a total of 29 (32.22%).

Table : 2 Urban And Rural Population Distribution

Area	Study Group (n=100)				Control Group (n=90)			
	Male(n=54)		Female(n=46)		Male(n=49)		Female(n=41)	
	No.	%	No.	%	No.	%	No.	%
Urban	25	46.29	26	56.52	23	46.93	23	56.09
Rural	29	53.70	20	43.47	26	53.06	18	43.90

In study group 51(51%) cases belonged to urban area and 49 (49%) to rural area.

In control group 46 cases (51.11%) belonged to urban area and 44 (48.88%) to rural area.

Table : 3 Education Wise Distribution

Education	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
Illiterate	5	9.25	15	32.60	4	8.18	13	31.70
Below 10 th	34	62.96	17	36.95	32	65.30	12	29.26
10 th -12 th	10	18.5	11	23.9	9	18.36	16	39.02
Graduate	5	9.25	1	2.17	4	8.16	0	0
Post-Graduate	0	0	2	4.34	0	0	0	0

In study group, education of most of the patients were below 10th standard (51%).

In control group, education of most of the patients were below 10th standard (48.88%).

Table : 4 Marital Status

Marital Status	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
Single	29	53.7	19	41.30	19	38.77	13	31.70
Married	25	46.29	26	56.52	29	59.18	27	65.85
Divorced	0	0	-	-	0	0	0	0
Widowed	0	0	1	2.17	1	2.09	1	2.43

In study group 51 (51%) cases were married and 48 (48%) were single.

In control group 56 (62.22%) cases were married and 32 were single.

Table : 5 Occupation

Occupation	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
House Wives	-	-	14	30.43	0	0	16	39.02
Labourers	16	29.62	8	17.39	21	42.85	8	19.51
Farmers	8	14.8	7	15.2	12	24.48	7	17.07
Students	16	29.62	11	23.9	6	12.24	6	14.63
Businessman/Shopkeeper	4	7.40	3	0.07	5	10.20	1	2.43
Service	5	9.25	1	2.17	3	6.12	1	2.43
Unemployed	4	7.40	3	6.52	2	4.08	2	4.87

In study group most of the cases belonged to student class i.e., 27% closely followed by labourers 24% and farmers 15%.

In control group most of the cases belonged to labourers class i.e., 32% closely followed by farmers 19%.

Table : 6 Socioeconomic Status

Socioeconomic Status Type	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
Lower	49	90.74	43	93.47	45	91.83	39	95.12
Middle	5	9.25	3	6.52	4	8.16	2	4.87
High	0	0	0	0	0	0	0	0

In both group most of the cases belonged to lower socioeconomic status and rest were from middle socioeconomic status.

Table : 7 Substance Abuse

Occupation	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
Smoker	5	9.25	-	-	4	8.163	0	0
Alcoholic	2	3.70	-	-	2	4.08	0	0
Smoker & Alcoholic	2	3.70	1	2.17	2	4.08	0	0
Tobacco Chewing	11	20.3	5	10.86	9	18.36	7	17.07
Alcoholic Smoker & Tobacco	3	5.5	-	-	2	4.08	0	0

In study and control group most commonly abused substance is in the form of tobacco chewing 16% and 17.77% respectively.

Table : 8 Distribution of Sample on The Basis of Presence or Absence of Psychiatric Disorder

Psychiatric Illness	Study Group (n=100)				Control Group (n=90)			
	Male (n=54)		Female (n=46)		Male (n=49)		Female (n=41)	
	No.	%	No.	%	No.	%	No.	%
Present	27	50	32	69.56	8	16.32	10	24.39
Absent	27	50	14	30.43	41	83.67	31	75.60

In study group, 59 (59%) cases were found to positive psychiatric association.

In control group, 18 (20%) cases were found positive psychiatric association.

Table : 9 Distribution Of Patient Attending Plastic Surgery OPD

Distribution of Patients		Male (n=54)		Female (n=46)		Total
		No.	%	No.	%	
A.	Post Burn / Related Complication	18	33.3	28	60.86	46
B.	Birth Defects					14
a.	Hypospadias	3	5.5	0	0	
b.	Cleft Lip / Palate	3	5.5	2	4.34	
c.	Syndactyly / Polydactyly	2	3.7	2	4.34	
d.	Microtia	0	0	1	2.17	
e.	Ambiguous Genitalia	0	0	1	2.17	
C.	Post Trauma	20	37.03	7	15.2	27
D.	Miscellaneous	8	14.8	5	10.86	13

In the study, group patients attending plastic surgery OPD, post burn (related complication)

were 46 (46%) followed by post trauma 27 (27%) and birth defection 14 (14%).

Table : 10 Distribution of Psychiatric Disorder in Control Group

		Male (n=49)		Female (n=41)		Total (n=90)	
		No.	%	No.	%	No.	%
A. Depressive Disorder							
a.	Major Depression	4	8.16	5	12.19	9	10
b.	Dysthymia	2	4.08	1	2.43	3	3.33
c.	Adjustment Disorders	1	2.04	0	0	1	1.11
d.	Depression Nos	0	0	0	0	0	0
B. Anxiety Disorders							
a.	Generalized Anxiety Disorder	6	12.24	5	12.19	11	12.22
b.	Panic Disorder with Agoraphobia	0	0	0	0	0	0
C.	PTSD	0	0	0	0	0	0
D.	Dysmorphophobia	1	2.04	1	2.43	2	2.22
E.	Paranoid Schizophrenia	0	0	0	0	0	0
F.	Dissociative Disorder	0	0	0	0	0	0
G.	Psychosis Nos	0	0	0	0	0	0
H.	Alcohol Dependence	1	2.04	0	0	1	1.11
Total		15	30.61	12	29.26	27	30

Table : 11 Distribution of Psychiatric Disorder in Post Burn Patients

		Male (n=49)		Female (n=41)		Total (n=90)	
		No.	%	No.	%	No.	%
A. Depressive Disorder						14	30.43
a.	Major Depression	4	22.2	6	21.42	10	21.73
b.	Dysthymia	0	0	3	10.71	3	6.52
c.	Adjustment Disorders	1	5.5	0	0	1	2.17
d.	Depression Nos	0	0	0	0	0	0
B. Anxiety Disorders						8	17.39
a.	Generalized Anxiety Disorder	3	16.6	5	17.85	8	17.39
b.	Panic Disorder with Agoraphobia	0	0	0	0	0	0
C.	PTSD	1	5.53	3	10.71	4	8.69
D.	Dysmorphophobia	1	5.53	1	3.57	2	4.34
E.	Paranoid Schizophrenia	0	0	1	3.57	1	2.17
F.	Dissociative Disorder	1	5.53	0	0	1	2.17
G.	Psychosis Nos	0	0	1	3.57	1	2.17
H.	Alcohol Dependence	1	5.53	0	0	1	2.17
Total		12	66.66	20	67.85	32	69.56

Table : 12 Distribution of Psychiatric Disorders in Post Trauma Patients

		Male (n=20)		Female (n=7)		Total (n=27)	
		No.	%	No.	%	No.	%
A. Depressive Disorder							
a.	Major Depression	2	10	2	28.57	4	14.8
b.	Dysthymia	0	0	0	0	0	0
c.	Adjustment Disorders	0	0	0	0	0	0
d.	Depression Nos	0	0	0	0	0	-
B. Anxiety Disorders							25.92
a.	Generalized Anxiety Disorder	3	15	3	42.85	6	22.2
b.	Panic Disorder with Agoraphobia	1	5	0	0	1	3.70
C.	PTSD	3	15	0	0	3	11.11
D.	Dysmorphophobia	0	0	1	14.28	1	3.72
E.	Conduct Disorder	2	10	0	0	2	7.2
Total		11	55	6	85.7	17	62.96

Table : 13 Distribution of Psychiatric Manifestation in Birth Defects

	Male(n=8)		Female (n=6)	
	No.	%	No.	%
Depressive Disorder	0	0	2	33.33
GAD	1	12.5	1	16.66
Total	1	12.5	3	50

DISCUSSION

The present study was carried out in Department of Medicine, Department of Psychiatry and department of burn and plastic surgery, Gandhi Medicine College & Hamidia Hospital, Bhopal during the period of July to December 2010.

Demographic Characteristics

The study group consisted of 100 patients of which 54 (54%) were males and 46 (46%) females with male preponderance with male to female ratio 1.1:1.

The contral group consisted of 90 patients of which 49 (54%) were males and 41(45.55%) females with male preponderance with male to female ratio 1.1:1.

The largest group consisted of 11-20 yrs age group which includes total 29 (29%) cases.

Most of the patients were urban [(n=5) / 51%] compared to rural [n=49/49%).

The education of Most of the patients were below 10th standard (51% \ (n=51)).

Among 100 cases 51 (51%) were married and 48 cases were single and one widowed.

Most of the cases belonged to student class (n=27) closely followed by labourers (n=24) and farmers (n=15).

Majority of the cases belonged to lower socioeconomic status.

Most commonly abused substance is in the form of tobacco chewing (n=16%).

PSYCHIATRIC ASSOCIATION

The current study consisted of 100 patients attending burn plastic surgery OPD on randomization basis during study period.

The largest group, consisted of post burn patients, evaluated for psychiatric manifestations (46%)b (n=46). In this group psychiatric symptoms observed in 69.56%(n=32), which are distributed as depressive disorder 30.43% (n=14), GAD 17.39% (n=8), PTSD 8.69% (n=4), Dysmorphophobia 4.34% (n=2), paranoid schizophrenia, dissociative disorder, psychosis, and alcoholic dependence 2.17% each (n=1).

The control group, consisted of 90 patients, psychiatric manifestations observed in 20% (n=18).

Results of our study are comparable and in accordance with previous studies carried on this aspect.

Psychiatric Manifestation in Post Burn Patients

Psychiatric disorders are common in the histories of burned patients, and the prevalence of such disorders has been reported to be 28% to 75%⁽¹⁸⁾.

An American study by Kessler et al. from 1994⁽⁷³⁾, and a Norwegian study by Kringlen et al. 2001⁽⁸⁴⁾ where the life time prevalence for any psychiatric disorder were 48% and 52% respectively, for depression they were 17% and 18% respectively, and for alcohol abuse or dependence they were 24% and 23%, respectively.

Indian Review Article by PK DALAL, RAHUL SAHA, et al; states Stress disorders and depression are prevalent. For example, acute stress disorder (ASD) has been reported in 18-26% in Greek,^[31] US,^[32] and Dutch^[33] samples. Post-traumatic stress disorder (PTSD) has been

observed in one-third of Japanese^[34] and US^[35] samples between 3 and 6 months post-burn, and in 15-20% of Dutch^[33] and Greek^[31] samples at 1 year. PTSD was more common among veterans with extensive burns than among those with spinal injuries, amputations, major chest trauma, heart failure, or cardiac arrest.^[35] In Australian sample, high levels of distress during a major brush fire was more strongly associated with PTSD symptoms than were sociodemographic or preexposure psychological variables.^[36] Finally, clinically significant symptoms of depression were reported by 23% in a US sample^[37] and 27% in a British sample^[38] at 2 years; and 20% of Greek patients with burn injuries had a depressive disorder at 2years.

Malt et al. and Patteron et al^(62,18) reported that anxiety and depression were the most prevalent disturbances in burn patients at follow-up. It was found that symptoms of depression and anxiety generally occurred together, With prevalence rates between 25% and 65% one yr post burn, and that most symptoms subsided after that period⁽¹⁸⁾

In more recent studies published after 1990, depression prevalence rates vary between 2%⁽⁶³⁾ and 53%⁽⁶⁴⁾ the 1st month after the burn, and between 13%⁽⁶⁵⁾ and 34%⁽⁶⁴⁾ at 12 month post burn.

In a study from US by Fauerbach et al⁽²¹⁾, the structured clinical Interview for DSM-III-R psychiatric 18 disorders was utilized to diagnose major depression. At the time of discharge from hospital four out of 95m patients (4%) were diagnosed with an ongoing major depression.

Madianos et al⁽⁶⁶⁾, face disfigurement was significantly associated with the presence of psychiatric morbidity, at least during acute hospitalization.

In a review by Baur⁽⁷⁶⁾ comprising studies between 1986 and 1996, the prevalence rates of PTSD in adult burn populations varied between 31% and 45%.

In more recent studies using self report instruments, frequencies vary between 2%⁽⁶³⁾ and 26%⁽⁸²⁾ within the 1st month post burn and

between 13% ⁽⁶⁵⁾ and 33% ⁽⁶³⁾ at the 12 months follow up.

Using the SCID-Imethodology, Fauerbach et al⁽²¹⁾ reported a prevalence of 8% at discharge from hospital and 20% at the 12-month follow up.

Madianor⁽⁶⁶⁾ who reported a prevalence rata of 18% within the 1st month post burn and 20% at the 12- month follow- up.

In a study from Tabassum Alvi et al(2009), high prevalence of depression was seen with 29 (58%) out of 50 patient and similarly high prevalence of anxiety was seen 41 (82%) patients.

On statistical analysis, presence of psychiatric manifestations, depression, in patients attending plastic surgery OPD with control group is significant($p<0.01$)and GADis also found to be significant($p<0.05$).

Psychiatric Association with Post Trauma

In current study the second largest group is of post trauma patient, which consist of post trauma (post traumatic scar, contrcture etc)patients following road traffic accidents,fall from height,homicidal assaults and bear bite.

Out of 27(27%) post trauma patients,17 patients (62.96%) was having psychiatric morbidity,which is distributed as depressive disorders 14.8% (n=4), GAD -22.2% (n=6), PTSD-11.11% (n=3), conduct disorder 7.29% (n=2) and dysmorphophobia and panic disorders-3.7% (n=1) each.

The results of the present study are comparable with the findings of the previous studies.

Study done by Matsuoka et al psychiatric illness after involvement in a motor vehicle accident in japan. The majority of illnesses consisted of depression(major depression, n=16, minor depression, n=7) and PTSD (fullPTSD,n=8,partial PTSD,n=16). Other illnessincluded alchohal dependence (n=3), OCD(n=2), agoraphobia(n=2), and social phobia(n=1)

The results of present study are comparable with previous studies.

Psychiatric Association with Birth Defects

In the present study, the next largest group, is of patients with birth defects; (Cleft lip/palate,

hypospadias, syndactly/polydactyly, microtia, ambiguous genitalia) . Out of 14 patients, 8 were male and 6 were female.

In present study prevalence of psychiatric manifestation in patient with birth defect were 28.57% (n=4).

We observed depression and GAD in 14.28% (n=2) each.

The results of Present study is in accordance with the previous studies.

Kipikasa, Longauer, and Urbanova (1979) reported many psychosocial disorders in 119 adult hypospadias patients; most of them had been fearful and reticent as children and they grew into withdrawn and shy adults.

The first comparative studies on psychosocial and psychosexual adjustment of hypospadias patients (Berg & Berg, 1983; Berg, Berg, & Svensson, 1982) showed that 34 adult hypospadias patients had a poorer psychosocial adjustment than 36 age-matched comparison subjects operated on for verified appendicitis. More recently, Sandberg, Meyer-Bahlburg, Aranoff, Sconzo, and Hensle (1989) investigated 69 boys with hypospadias between the ages of 6 and 10 years and reported that they showed more behavioral problems and lower socialcomptence than boys from a.nonclinical sample.

Compared to children without craniofacial conditions, children with CLP received less positive responses and avoided longer conversations with their friends (Kapp-Simon & McGuire, 1997). They showed problems, reported by parents or teachers, with depression, anxiety, unhappiness and behavioral problems (Millard & Richman, 2001; Hunt, et al., 2007). A Norwegian study, by Ramstad et al., found that depression and anxiety were frequently reported by persons with CLP. There is individual variation in adjusting to living with a visible deviation. Some manage to cope but others become psychologically distressed (Moss, 1997; Stavropoulos, et al., 2010). Marcusson et al. compared adults treated for CLP and persons without clefts of a similar age. Well-being and social life were poorer in persons with CLP

although the overall QOL was high (Marcusson, et al., 2001). A study done in adolescents also showed that persons with CLP tended to be an outsider of daily conversations or at the periphery of a group (Kapp-Simon & McGuire, 1997). In a Norwegian study, anxiety and depression were more frequently reported. Persons with CLP married later in life and fewer were married (Ramstad, et al., 1995a). The feeling of appearing different from others was described both for the time period of growing up and as a young adult. It was an issue regardless of the type of cleft. .

SUMMARY & CONCLUSIONS

The present study was carried out in Department of Medicine, department of Psychiatry and department of burn & plastic surgery of Gandhi medical college and Hamidia hospital, Bhopal during the period of July to December-2010.

In the study group, 100 patients were Included, and age & sex matched 90 cases were Included in the control group. They were assessed in the same Structural proforma. The psychiatric diagnosis was made using DSM-IV-TR.

The strength of this study is the use of the DSM-IV-TR clinical nomenclature rather than a questionnaire cut off or a construct such as e.g. psychological distress that is not easily translated in to the DSM code.

In this study all patients attending plastic surgery OPD are included to have a broad view of their psychiatric manifestations.

We have also studied, psychiatric manifestations in age & sex matched control group. The study group has shown higher psychiatric morbidity & which was statistically significant.

However the sample size was small, so the results of the study cannot be generalized. It is also a cross sectional study which determined only the point prevalence of various psychiatric diagnosis, Hence longer longitudinal study should be planned.

In conclusion, our findings suggest higher prevalence rates of depressive, anxiety, PTSD, & dysmorphophobia, in patients attending plastic surgery OPD then control group. The difference

between the two groups was statistically significant, Hence it might be clinically useful to address psychiatric comorbidity in these patients, which may affects the surgical outcome, so psychiatric consultation should be a routine part for evaluating such patients.

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