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Original Article

Psychiatry Section

Recent Trends in the Sociodemographic, Clinical Profile and Psychiatric Comorbidity Associated with Posttraumatic Stress Disorder: A Study from Kashmir, India

SHEIKH SHOIB[1], RAHEEL MUSHTAQ[1], SNOWBER JEELANI[2], JAVID AHMAD[2], MOHAMMAD MAQBOOL DAR[3], TABINDAH SHAH[4]

ABSTRACT

Objective: To estimate the Prevalence of post-traumatic stress disorders (PTSD) among adults in field practise areas of Government Medical College, Srinagar, India.

Methodology: The present study was cross-sectional in nature and was conducted in field practice areas of Government Medical College Srinagar. Three blocks of field practice areas of Government Medical College, Srinagar comprising of various villages were selected. Further 10 per cent of these villages were selected by the method of randomization sampling and then 10 per cent of household were taken again by systemic random sampling. In the selected household all adult population (18 years and above) were selected and screened by using General health questionnaires(GHQ). The patients who screened positive for PTSD (post-traumatic stress Disorders) were assessed and diagnosed. From the line listing the positive cases, the prevalence rates were calculated.

Results: Of the total 3400 subjects (age≥18 years), the prevalence of post-traumatic stress disorders among general population was found to be 3.76%. Prevalence was found to be more in females (Chi-square test=2.086, p>0.05 (Insignificant). Most of cases were found to be in the age group 0-40 years. Most of the cases were married, illiterate and belong to lower socioeconomic class. Death of near one comprised the major traumatic event. Acute onset Post-traumatic stress disorder was the commonest type, previous history of psychiatric illness was found in 12 % of patients and drug abuse was present in 22.6%.

Conclusion: Our findings clearly indicates that post-traumatic stress disorders (PTSD) is a prevalent disorder in the developing world, especially in disaster prone regions and in areas of political unrest. Resilience to various traumatic events in Kashmir has developed over the years and this might explain the lower prevalence of Post-traumatic disorder (PTSD) in our study.

Keywords: Prevalence, post-traumatic stress disorders, Kashmir

INTRODUCTION

Trauma is an inexorable part of human existence, especially in a conflict situation [1]. This fact assumes even greater importance in the light of the fact that trauma could play a key role in the genesis of various psychiatric problems [2]. Traumatic stress encompasses exposure to events or the witnessing of events that are extreme and life threatening [3]. The total lifetime prevalence for any traumatic experience in the community in Kashmir is 58.69% as reported [4].

Post-traumatic stress disorder is one of the many responses that can occur following exposure to traumatic events. The various predisposing factors for trauma include multiple trauma, female sex, neurotic personalities, lower Intelligence Quotient (IQ), genetic predisposition, poor social support, past history of psychiatric illness and substance abuse [5]. In the West the prevalence of Post-traumatic Stress Disorders ranges from a minimum of 1% in earlier DSM III studies to maximum of 12.3% in more recent surveys [6]. Robin et al., found the prevalence more in Indo-Americans then Americans [7]. The prevalence of PTSD varies 7.8 % in non- conflict areas to 15.8% in conflict areas [2]. The prevalence of PTSD in United states of America (US) is 0.5% for males and 1-3% females. Lifetime prevalence for any traumatic experience as reported by Kessler et al., 1995 from National Co-morbidity Survey was 60.7% for men and 51.2% for women [8].

In the last two decades, Kashmir has witnessed multiple conflicts leading to increase in various psychiatric disorders [9]. During this period there has been persistent violence and trauma situation, resulting in deaths of thousands of people and its aftermath effects like family instability, relocation of people and property damage [10]. The wrath that occurred due to natural disasters (snowstorm and earthquakes) during the same time cannot be underestimated [2]. The various co morbid psychiatric disorders associated with PTSD include major depressive disorders, anxiety disorders and somatisation [8].

This study illustrates the prevalence of Post-traumatic stress disorders and the trauma related event by community assessment surveys in three block areas of Kashmir. The study was also done to assess their socio-demographic factors, clinical profile and comorbid psychiatric disorders.

METHODOLOGY

The study was conducted in field practice areas of Government Medical College, Srinagar, Jammu and Kashmir which consists of three medical blocks: Ganderbal, Hazratbal and Lar. Out of these, Ganderbal and Lar blocks constitute rural and hilly areas while as block Hazratbal represents urban and urban slum areas. 3400 Patients were screened (1880 males and 1520 females). The study was cross-sectional in nature and was conducted in two phases.

Phase First: In each block all the comprising villages were line listed, then 10 per cent of these villages were taken up for the study by the method of randomisation sampling. Out of 10 per cent villages, 10 per cent of household were taken again by systemic random sampling. In the selected household, all adult population (18 years and above) was taken up and screened by using life event check list, which was specially designed for the study.

Phase second: In the second stage, the patients who screened

positive for PTSD in stage 1 were assessed. Diagnosis were confirmed by consultant psychiatrist in Government Psychiatric Disease hospital, an associated hospital of Government Medical College, Srinagar. General description, demographic data and psychiatric history was recorded using the semi-structured interview which was pretested. Firstly, informed consent were taken from the patient. Then the patient were interviewed using the structured questionnaire. Diagnosis was done as per Diagnostic statistical manual of mental disorders (DSM 4 TR) and Clinical administered PTSD rating scale (CAPS scale) was used to assess the severity of PTSD symptoms. CAPS is a semi-structured interview that is designed to assess the essential features of Post-traumatic Stress Disorder as defined by the DSM-IV (American Psychiatric Association, 1994) [2]. Patients were also assessed for comorbid depression, anxiety disorders and somatization disorders. Patients were also asked for possible causes of trauma. After line listing the positive cases, prevalence rates of PTSD were calculated.

Statistical Methods

A secure computerized database was established and maintained throughout the study. Patient names were replaced with unique identifying numbers to ensure confidentiality. All statistical analysis were performed using SPSS software version 16.0 (SPSS, Chicago, Illinois, USA) and tests of statistical significance were two-sided and differences were taken as significant when p-value was less than 0.05. Statistical analysis were performed using the SPSS, version 16.0 for Windows. Data were analyzed by the Pearson chi-squared test and t-test. $p<0.05$ was considered as the significance level in the evaluations.

	Total Population	Block Ganderbal	Block Lar	Block Hazratbal
Total Subjects	3400	1200	600	1600
Male	1880	668	380	832
Female	1520	532	220	768
Age				
< 20year	405	192	113	100
20-40	1409	467	222	720
40-60	985	360	165	460
>60	601	181	100	320
Marital Status				
Married	2587	969 (81)	450 (75)	1168 (73)
Unmarried	813	231 (19)	150 (25)	432 (27)
Education Status				
Literate	899	318	50	531
Male	581	222	36	323
Female	318	96	14	208
Illiterate	2341	882	390	1069
Male	1139	446	184	509
Female	1202	436	206	560
Social Class				
Social class 1	0	0	0	0
Social class 2	208	52	53	103
Social class 3	287	105	53	129
Social class 4	2905	1043	494	1368
Rural Urban Distribution				
Rural	1800 (53)			
Urban	1600 (47)			
Family Type				
Joint	1620	670	450	500
Nuclear	1780	530	150	1100

[Table/Fig-1]: Baseline characteristics of study subjects

	PTSD Cases	Block Ganderbal	Block Lar	Block Hazratbal	
Total Subjects	128	26	40	62	Chi-square test=2.086 p>0.05 (Insignificant)
Male	34	5	9	20	
Female	94	21	31	42	
Age					
< 20yr	13	3	5	5	Chi-square test=6.050 p>0.05 (Insignificant)
20-40	72	15	22	35	
40-60	23	6	9	8	
>60	20	2	4	14	
Marital Status					
Married	97 (76)	20 (76)	30 (75)	47(76)	Chi-square test=0.032 p>0.05 (Insignificant)
Unmarried	31 (24)	6 (24)	10 (25)	15 (24)	
Education Status					
Literate	21				Chi-square test male = 0.528, female=0.272 p>0.05 (Insignificant) for both sexes
Male	7	1	3	3	
Female	14	4	2	8	
Illiterate	107				
Male	27	4	6	14	
Female	80	17	29	34	
Social Class					
Social class 1	0	0	0	0	Chi-square test =0.380 p>0.05 (Insignificant)
Social class 2	8	1	3	4	
Social class 3	10	2	3	5	
Social class 4	110	23	34	53	
Rural Urban Distribution					
Rural	66 (52)				Chi-square test =6.7 p<0.05 (significant)
Urban	62 (48)				
Family Type					
Joint	65	15	30	20	Chi-square test =18.40 p<0.05 (significant)
Nuclear	63	11	10	42	

[Table/Fig-2]: Characteristics of PTSD study subjects

	Prevalence of PTSD		
	Number of Persons Studied	Number of PTSD cases	Prevalence %
	3400	128	3.76
	Block wise Prevalence		
	Block/Persons studied	Number of PTSD cases	Prevalence %
	Ganderbal/1200	26	2.16
	Lar/600	40	6.66
	Hazratbal/1600	62	3.87
	Sex Related Prevalence		
Sex	Total Population Studied	Number of PTSD cases	Prevalence %
Male	1880	34	1.8
Female	1520	94	6.2
	Age Related Prevalence		
Age Group	Population Studied	Number of PTSD cases	Prevalence %
<20 years	405	13	3.2
20 -40	1409	72	5.11
40-60	985	23	2.33
>60	601	20	3.32

[Table/Fig-3]: Prevalence of PTSD

History of Somatization		
Symptoms	**Number of Patients**	**Percentage**
Headache	114	89
Body Pain	104	82
Stomach Pain	74	58
Loss of Appetites	78	61
Symptoms Suggestive of Anxiety and Depression		
Symptoms	**Number of Patients**	**Percentage**
Depressive symptoms	100	80.6
Worry	102	80
Palpitations	60	39.2
Sweating	32	25
Breathlessness	64	50
Fear of dying	102	80
Symptoms Suggestive of PTSD		
Type of Trauma	**Number of Patients**	**Percentage**
Death of near one	69	55.5
Exposure To Firing	33	26
Near Death Experiences	14	11
Rape/Molestation	8	6
Failure in examination	4	3
Total	128	100
Time of Onset		
Time of onset	**Number of Patients**	**Percentage**
Acute(within 3 months)	66	52
Delayed(After 6 months)	10	7
Chronic(3-6 months)	52	41
Total	128	100

[Table/Fig-4]: Clinical features and onset of PTSD study subjects

Symptoms of Avoidance			
	Symptoms	**Number of patients**	**Percentage**
1	Avoidance of thought	112	88
2	Avoidance of people/places	102	80
3	Diminished interest	106	83
4	Foreshortened Future	102	80
5	Restricted range of Affect	76	60
Symptoms of Hyper Arousal			
	Symptoms	**Number of patients**	**Percentage**
1	Difficulty in sleep	84	66
2	Outburst Of anger	72	56
3	Difficulty in concentration	72	56
4	Hyper Vigilance	66	52
	Symptoms of Re-experience		
	Symptoms	**Number of patients**	**Percentage**
1	Intrusive Thought	114	89
2	Distressing Dreams	112	88
3	Illusions	112	88
4	Intense Psychological Distress	72	88
5	Physiological Over activity	102	56
	Previous Psychiatric Illness		
	Psychiatric Illness	**Number of patients**	**Percentage**
	Present	16	12
	Absent	112	88
	Total	128	100
	Anxiety disorders	8	6.25
	Major depression	3	2.34
	Panic Disorders	2	1.56
	Simple Phobia	1	0.78
	OCD	1	0.78
	Bipolar Patients	1	0.78
History of Drug Abuse			
	Drug Abuse	**Number of patients**	**Percentage**
	Present	29	22.66
	Absent	99	77.434
	Total	128	100
	Alcohol	1	0.78
	Nicotine	22	17.18
	Cannabis	5	3.90
	Miscellaneous	2	1.56

[Table/Fig-5]: Clinical administered post-traumatic scale (CAPS) and psychiatric comorbidity of PTSD subjects

DISCUSSION

Communities that are affected by mass violence, sexual assault, exposure to combat zone and other types of trauma are at increased risk for PTSD (post-traumatic stress Disorders) [8]. Kashmir is an area, which is pre-disposed to disasters, exposed to war zones, and hence is at increased risk for PTSD [11].

The study was done to assess the Sociodemographic factors, clinical profile and comorbid psychiatric disorders in three block area of Kashmir–Ganderbal, Hazratbal, and Lar [Table/Fig-1]. The mean age of the patients in the study was 44 years, which is similar to other study done PTSD was found more in females, married, illiterate population and in lower socio-economic class in all the three blocks of Kashmir [Table/Fig-2]. This finding is in accordance with Kessler et al., who also found lifetime prevalence of PTSD more in subjects who were married, unemployed and with lower literacy rate [8]. Jammu and Kashmir is one of the states with lower literacy rates (54.46%) than the average in India (65.38%). The discrepancy is higher for women (42% compared to national average of 54%) than for men (66% against 76%) [12]. This might be one of the reason for higher prevalence of PTSD in females.

In the study, a total of 3,400 adults of three blocks were screened. The number of cases that were diagnosed as PTSD was 128. The prevalence PTSD in the study was 3.76% which is similar to the study done by Richard F Mollica et al., who found prevalence of 3% among Bosnian refugees and David Kinzie et al., who also found prevalence of 3.2% among the non-wounded veterans [13,14]. Further the prevalence of PTSD in females was 6.2 % while as prevalence in males was 1.8% [Table/Fig-3]. The finding is in agreement with Kessler et al., Margoob et al., who also reported increased prevalence of PTSD in females [2,8]. Trauma can also result in development of other psychiatric disorders like major depressive disorders, anxiety disorders, somatisation and dissociative disorders [8]. PTSD doesn't occur alone [15]. Association of other psychiatric disorders with post-traumatic stress disorder is found in 50% of cases [16].

The most common psychiatric disorder associated with PTSD is found to be alcohol abuse. Alcohol use occurs in an attempt to self-medicate the pain full experience of post-traumatic stress disorder [17], known to elevate mood and is a anxiolytic [18]. However in the study it was found to be in minority (0.78 %) as Kashmir is a Muslim majority state. Alcohol abuse is not considered culturally appropriate

[2]. However use of nicotine (17.18%) was found in the study apart from cannabis (3.90%). This is in accordance with Roszell et al., who found increase use of cigarettes in people affected with PTSD [18]. Increased stress, elevates levels of corticotrophin releasing factor (CRF) in blood, which in turn causes depressive and anxiety features [19]. PTSD also leads to poor self-esteem, which can also contribute to depression [2]. Most of the patients presented earlier with complaints of depressive and somatic features, which were subsequently diagnosed as PTSD on subsequent follow ups. Somatic Symptoms were found more with PTSD in the study. This finding of ours is in accordance with Young et al., [18].

The somatic symptoms associated with PTSD were headache (89%), gastric symptoms (58%), musculoskeletal pain (82%) [Table/Fig-4]. This finding of ours is in accordance with Arshad et al., [20]. Further Wesley related somatic symptoms in PTSD for loss of work and productivity [20].

The most common causes of PTSD in our study was death of near ones (55.5%), followed by exposure to firing (26%), near death experience (11%) [Table/Fig-4]. Margoob et al., found firing and exposure to war as most important causes of trauma [21]. The most common cause of PTSD in females is known to be rape [16] [Table/Fig-4]. But in our study it was found less (6%). Perhaps the females would hesitate in reporting cases of rape, because of sociocultural factors. This finding is in contrary to Margoob et al., [21] who reported high prevalence of PTSD due to rape (12%). Exposure to natural disasters was also found less (5%) in our study, contrary to Margoob et al., who found 12% of cases attributing natural disasters (earthquakes)as cause of trauma. This might be due to the fact that last major earthquake in Kashmir occurred in 2005, one year after Margoob (2006) conducted his study [21].

There have been periods of insurgency and political turmoil from 2010 to 2011 which caused tension and stress among common masses, leading to various stress related disorders. Thousands of people got injured and many got killed during this insurgency period. Frequent clashes occurred between the police and common masses, leading to various types of physical injuries. Defective coping strategies due to stressful life events increased mental health problems in the turmoil period, compared with the pre turmoil period. Insurgency affects education and employment sector, which have negative consequences on youth [22].

Twenty seven percent of cases of PTSD had previous history of psychiatry disorders [Table/Fig-5]. Breslaau (1998) reported previous history of psychiatric illness as one the important risk factors for PTSD, especially affective disorders, anxiety disorders and substance abuse [23]. In our study previous history of psychiatric illness included major depressive disorder and anxiety disorders. This is also in accordance with Breslau [24].

The symptoms present in PTSD included avoidance, hyper arousal and re-experience. However avoidance and re-experience symptoms were more in the study compared to hyper arousal symptoms [Table/Fig-3]. Avoidance symptoms included avoidance of thoughts (88%), followed by diminished interest (83%), avoidance of places and people (80%). The findings of this study are in agreement with Margoob et al., [11,25].

Hyper arousal symptoms included sleep problems (66%) and difficulty in concentrating (56%) which is supported by Margoob et al., [11,25]. The explanation for this could be that commonest re-experiencing symptoms were distressing dreams/nightmares.

Majority (89%) of patients in the study had a re-experiencing of traumatic event in the form of intrusive thought and disturbing dreams/nightmares (88%). The findings of our study are in agreement with Cuffe et al., who reported distressing recollections as the most re-experiencing symptom [26].

CONCLUSION

The results of the present study suggest that people living in conflict zone must be carefully evaluated for mental health problem. Patients in the study presented with varied symptoms and with different comorbid disorders in different sex and age groups. Avoidance symptoms were common in our subjects. PTSD is a highly prevalent disorder in the developing world as well, in the areas of conflict zone and disaster prone regions. There is no doubt that movement of turbulence has affected every aspect of the life in the state of Jammu and Kashmir. Life is still going on between the turbulence and trauma culture. There are different coping mechanisms of absorbing the daily violence and trauma in our culture like talking to friends and sharing thought. Collective social sharing decreases stress and play a key role in decreasing the sufferings and trauma. People in Kashmir have developed a sort of resistance against trauma as they have faced multiple traumas during these insurgency periods. This might be reason that prevalence of PTSD has decreased over the last few years, despite persistent traumatic events. People have now developed resilience to various traumatic events that explains the lower prevalence of PTSD in our study.

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PARTICULARS OF CONTRIBUTORS:
1. Senior Resident, Trauma Clinic, Post Graduate Department of Psychiatry, Government Medical College, Srinagar, Jammu and Kashmir, India.
2. Department of community Medicine, Sheri Kashmir Institute of Medical Sciences Soura, Jamm uand Kashmir, India.
3. Head of Department, Trauma Clinic, Department of Psychiatry, G.M.C, Srinagar, Jammu and Kashmir, India
4. M.B.B.S, Government Medical College, Srinagar, Jammu and Kashmir, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Sheikh Shoib,
Senior Resident, Trauma Clinic, Post Graduate Department of Psychiatry, Government Medical College,
Srinagar, Jammu and Kashmir, India.
Phone: 9797197388, Email: sheikhshoib22@yahoo.com

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