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Research Paper

Gender Difference on Orthopaedic Trauma

Medical Science

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ABSTRACT

Orthopaedic trauma is a physical trauma that is very commonly seen among the civilian after orthopaedic injuries. Road traffic accident, machinery cut, fall from height, domestic violence, gunshot wounds etc. are reported as the most common causes behind orthopaedic injuries and trauma. They affect the subjective and psychological wellbeing of an individual and challenge their existence as fully functioning person. Intrusive thoughts, avoidance to traumatic memories, vigilant and hyperarousal responses are very commonly seen. Therefore the present paper aims to investigate gender difference on orthopaedic trauma by using Impact of Event Scale-Revised (IES-R) adapted by Wiess and Marmer (1997). Sixty patients diagnosed with orthopaedic trauma admitted to the ward of Jawarhallal Medical College and Malkhan Singh Hospital of Aligarh City, were randomly drawn. Of these 30 were male and 30 were female patients. The findings of the study revealed that: (1) Male and female patients differ significantly on the two subscale of the IES-R that are Intrusion, Avoidance. However significant difference was not found on the third scale that is hyperarousal scale , and (2) On the overall score female patients scored significantly higher as compared to male with orthopaedic trauma.

The word trauma is being used very frequently to refer to any kind of stressful event that causes sudden and drastic change in the personality and overall well-being of an individual. Making the understanding of trauma more clear The Diagnostic and Statistical Manual of Mental Disorder, 4th edition , Text Revised (DSM-IV-TR) of American psychological Association (2000) defines trauma as "direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, serious harm, or threat of death or injury experienced by a family member or other close associate (Criterion A1). The person's response to the event must involve intense fear, helplessness, or horror (or in children the response must involve disorganized or agitated behaviour (Criterion A2)" (p.463).

Types of Trauma: The Bio-psycho-socio perspective

A trauma could be best explained about its nature through *Bio-psycho-socio* perspective, meaning trauma could be physical (such as an accident, by natural disasters like flood, draught, earthquake, war), psychological trauma (such as chronic stress) and social trauma or man made trauma (such as domestics violence, human right abuse e.g. torture or kidnapping, sexual abuse, harassments). Perlman and Saakvitne (1995) defined psychological trauma as "psychological trauma is unique individual experience of an event or enduring condition in which the individual's ability to integrate his or her emotional experience is overwhelmed or the individual experience (subjectively) a threat to life, bodily integrity, or sanity" (p.60). Thus ultimately all types of trauma coincide at one point that is affecting psychological and subjective well-being because mind and body are not the separate entity therefore when a persona suffers from othopaedic trauma that is a physical type of trauma his psychological wellbeing is also negatively affected. Any powerful physical trauma like orthopaedic trauma may turn into a traumatic experience for the sufferer, if an orthopaedic injury disrupts the person's quality of life and cause significant physical and/ or emotional reaction, and then it can be called as trauma. Physical injuries like road traffic accident and cranial racture , machinery cut, bone fracture out of domestic violence etc. may be the detrimental cause behind orthopaedic injuries and trauma.

Orthopaedic injuries and trauma lead to Post-traumatic Stress Disorder, depression, anxiety, somatoform disorder, psychological distress, poor quality of life, and cognitive avoidance of distressing thoughts (Aron, Fadale, Harrington & Born, 2011; Bilberg, Norqaad, Overqaad & Roesler, 2014; Teasdale & Enberg 2005; Rosenbloom, Khan, Cartney & Katz, 2013).

Starr et al. (2004) studied the impact of orthoaedic trauma among patients and followed up condition of 330 orthopaedic trauma patients who already met the criteria of PTSD. He found 51% of the patients with orthopaedic trauma met the criteria for PTSD and their symptoms include recurrent recollection of incident, avoidance of associated places or activities, emotional outburst or mood swings, sleeplessness and hyper vigilance.

Teasdale and Engberg (2005) conducted a study on subjective well-being and quality of life among adults with traumatic brain injury mainly patients with cranial fracture or cerebral lesion. Findings of their study revealed that the group with cerebral lesion had remarkably poorer quality of life and subjective well-being than that of cranial fracture. They concluded that the negative consequences of traumatic cerebral lesion are marked and do not vary at long period following injury.

Bhandari, Bausse, Hanson, Leece, Ayeni and schmitsch (2006) conducted a study on psychological distress and quality of life after orthopaedic trauma. Total 215 patients with orthopaedic trauma were taken for the study and they found that 1 in 5 patients met with the criteria for psychological illness (22%), the patients were also found to have higher psychological distress in all the dimensions of the Symptom Checklist- 90 Revised (SCL-90-R), especially on the dimension of somatization and phobic anxiety.

Aron, Fadale, Harrington and Born (2011) studied post traumatic stress disorder in civilian orthopaedics. They found that 20% to 51% of the patients with musculoskeletal injury is followed by PTSD. Another study was conducted by Bilberg, Norqaad, Overqaard and Roersler (2014) to examine the mental health and quality of life in shoulder pain patients and hip fracture patients. They found that the former group reported poor quality of life, depression, anxiety, concern and somatization disorder as compared to the hip fracture patients.

Prevalence

Cited by Rosenbloom, Khan, McCartney, Katz (2013) the world statistic of traumatic injuries as in 2008 around the world had been found to lend 5.13 million deaths as a result of just traumatic injuries. In India also orthopaedic injuries and trauma are very common from different sources like road traffic accident, fall from height, machinery cut and many others.

Objectives

The objectives of the present study are:

- To examine the difference between the mean score of male and female patients of orthopaedic trauma on the three sub-scales of *Impact of Event Scale* (IES-R) namely *Intru-*

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sion, Avoidance and *Hyperarousal.*

- To examine the difference between mean score of male and female patients of orthopaedic trauma on the composite score of Impact of Event Scale-Revised.

Hypotheses

There will be no significant difference between male and female patients of orthopaedic trauma on the three subscales of *Impact of Event Scale* (IES-R) namely *Intrusion, Avoidance* and *Hyperarousal, and* There will be no significant difference between male and female patients of orthopaedic trauma on the composite score of Impact of Event Scale-Revised.

Method

Participants

Sixty patients already diagnosed with orthopaedic trauma admitted to the ward of Jawaherlal Nehru Medical College and Malkhan Singh Hospital of Aligarh City, were randomly drawn. Of these 30 were male and 30 were female patients with orthopaedic trauma and injuries.

Measure

The Impact of Event Scale-Revised (IES-R) adapted by Wiess and Marmer (1997) of the original version Impact of Event Scale-15 (IES-15) developed by Horowitz, Wilner & Alvarez (1979), was used to measure impact of orthopaedic trauma on the diagnosed patients. This scale comprises of 22 items about how stressful the event was felt during the past seven days. The patients were required to rate each item on five-point Liker rating scale ranging from 0 to 4 where, 0 stands for Not at all, 1- A little Bit, 2- Moderately, 3- Quit a Bit and 4- Extremely distressful. There are three subscale namely Intrusion scale (comprised of 7items), Avoidance scale (comprised of 8 items) and Hyperarousal scale (comprised of 7 items), the total score is obtained by summing up scores on the three sub-scales. The scale is found to be highly reliable as the Cronbach's coefficient Alpha of the Intrusion scale was found to be ranging between 0.87- 0.94, for Avoidance scale 0.84- 0.87 and for Hyperarousal Scale 0.79-.91 (Creamer, Bell & Failla, 2003; Weiss & Marmer, 1997). Also test retest reliability of the scale was obtained over the interval of 6 months as ranging from 0.89 to 0.94 (Weiss & Marmer, 1997).

Procedure

The data was collected individually from each participant and also confidentiality was ensured that data collected from them will only be used for research purpose. Once participants responded to all the items of the scale individually they were thanked for their co-operation and participation in the study. After that the scoring of each scale was done manually.

Data Analysis

The data was analyzed by using SPSS Version 16.00 where descriptive statistics, and t test for calculating mean difference were used.

Results

Table 1: Showing the mean difference between male and female patients of orthopaedic trauma on the three subscales of *Impact of Event Scale- Revised (IES-R)* namely *Intrusion Scale, Avoidance Scale* and *Hyperarousal Scale.*

Scales	Gender	N	Mean	SD	t	P
	Male	30	11.66	5.12	6.49	<0.01
	Female	30	19.00	3.34		
	Male	30	15.86	4.44	5.73	<0.01
	Female	30	22.86	4.89		
	Male	30	16.1	5.03	0.70	>0.01
	Female	30	17.53	5.49		

Table 2: Showing the mean difference between male and female patients of orthopaedic trauma on the composite score of *Impact of Event Scale- Revised (IES-R).*

Gender	N	Mean	SD	t	P
Male	30	43.63	11.56	5.75	< 0.01
Female	30	60.96	11.43	11.43	

Discussion

From table 1 it can be seen that significant difference was found between the mean scores of male and female patient of orthopaedic trauma on the *Intrusion* and *Avoidance subscale* of IES-R. Furthermore female patients scored significantly higher on the Intrusion subscale as compared male patients. This suggests that female participants with orthopaedic trauma are more likely to experience recurrent and intrusive thoughts and distressing recollection of the event including images and flashbacks of traumatic event. Since they have also scored higher on the Avoidance scale as compared to male patients of orthopaedic trauma therefore it can be inferred that female patients are more likely to exert efforts to avoid traumatic thoughts and also avoidance to any conversation associated with their orthopaedic trauma. However no significant difference was found between the two groups on the *Hyperarousal subscale.* Thus it might be said that both male and female patients appear to have similar level of anger, difficulties in concentration, hyper-vigilance and startled response.

From table 2 it can be seen that significant difference was found between the mean score of male and female patients with orthopaedic trauma on the composite score of *IES-R.* this finding suggests that female as compared to male are more vulnerable to meet the diagnostic criteria of PTSD. Also taking into consideration the first two scale namely Intrusion and Avoidance it can be said that female are more vulnerable to develop post traumatic effects after orthopaedic trauma as compared to male patients because the authors of the IES-R has also mentioned that "for valid comparison with scores from IES-R use just sum of the Avoidance and Intrusion items" (Weiss & Marmer, 1997).

One of the possible reasons of female having more vulnerability to have post traumatic effects, can be attributed to poor quality of social support, additional life stressors, extent to which the event involve injury and their coping style because female patients were found to be more emotion focused coping style whereas male patients were found to have more problem focused coping style.

Conclusion and Suggestion

Any type of trauma proves to be the negative experience of human life and existence. They deeply affect the meaning and purpose of life of an individual. Spiritual support by the care givers can enhance their social well-being. Spiritual practices like *Tasbeeh, Meditation, Yoga, Reading holy scripture, Incantation of Mantars and prayer* can be suggested to patients in order to decrease stress and to enhance subjective and psychological well-being of them. At hospitals the spiritual chaplaincy program can also be added with the palliative care of medical model for long lasting positive outcome and to lessen the chances of relapse cases.

References

1. Aron, D. L., Fadale, P. D., Harrington, C. J., & Baron, C. T. (2011). Posttraumatic stress disorder in civilian orthopaedics. Journal *of American Academy of orthopaedic Surgery, 19*(5), 245-250.
2. Bilberg, R., Norqaad, B., Overqaard, S., & Roessler, K. K. (2014). Mental health and quality of life in shoulder pain paients and hip pain patients assessed by patients reported outcome. *International Journal of Orthopaedic and Trauma Nursing, 18*(2), 81-88.
3. Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the Impact of Event Scale- Revised. *Behaviour Research and Therapy, 41*, 1489-1496.
4. Horowitz, M. J., Wilner, N., Alvarez, W. (1979). The Impact of Event Scale: A

measure of subjective stress. *Psychosomatic Medicine, 41*, 209-218.

5. March, J. S. (1993). What constitute a stressor? The "Criterion A" issue. In J. R. T. Davidson , & E. B. Foa (Eds.), *Posttraumatic stress disorder: DSM-IV and beyond.* Washington, DC: American psychiatric Association Press.
6. Pearlman, L. A., & Saakvitne, K. W. (1995). *Trauma and the therapist.* New York: Norton.
7. Rosenbloom, B. N., Khan, S., McCartney, C., & Katz. J. (2013). Systematic review of persistent pain and psychological outcome following traumatic musculoskeletal injuries. *Journal of Pain Research, 3*(6), 39-51.
8. Starr, A. J., Smith, W. R., Frawley, W. H., Borer, D. S., Morgan, S. J., Reinert, C. M., Mendoza, W. M. (2004). Symptoms of posttraumatic stress disorder after orthopaedic trauma. *Journal of Bone and Joint Surgery, 86*(6), 1115-1121.
9. Teasdale, T. W., & Engberg, A. W. (2005). Subjective wee-being and quality of life following traumatic brain injuries in adults: A long term population-based follow-up. *Brain Injuries, 19*(12), 1041-1048.
10. Weiss, D. S., & Marmer, C. R. (1997). The Impact of Event Scale- Revised. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp.399-411). New York: Guilford Press.