GENDER DIFFERENCE IN DISTRESS RESPONSES, RUMINATION PATTERNS, PERCEIVED SOCIAL SUPPORT AND POSTTRAUMATIC GROWTH AMONG FLOOD AFFECTED INDIVIDUALS

Naeem Aslam, Anila Kamal

ABSTRACT

Objectives: The present study investigated the difference of distress responses, rumination patterns, perceived social support and posttraumatic growth among population exposed to floods in Pakistan began on July 27th, 2010.

Design: Cross sectional study

Place and Duration of study: Individuals who experienced flood 2010 in District Shadadkot, Sindh. Data was collected during April 2012 to September 2012.

Subjects and Methods: Sample comprised of 101 individuals. Age ranged from 15 to 50 years (M = 27.73, SD = 7.19), with participation of both, male and female gender (n=36 and 65) respectively. Urdu translated versions of Impact of Event Scale (IES); Depression, Anxiety, stress scale (DASS); Event Related Rumination Inventory (ERRI); Perceived social support scale; and posttraumatic growth inventory (PTGI) were used to measure PTSD, psychological distress, rumination patterns, perceived social support and posttraumatic growth (PTG) respectively.

Results: Results showed that the PTSD, psychological distress, intrusive and deliberate rumination is higher among female participants as compare to males. Small sample size, cross-sectional nature of the study and a mere reliance on respondents' retrospective account of their responses thwarts the generalizibility of the findings.

Conclusion: Three years after the flood, survivors still experience the bothersome symptoms of PTSD. Psychological distress, rumination and perceived social support is higher among female participants. Specialized psychological services are needed for the females flood affectees.wheras, rumination patterns should be considered while devising the intervention plans.

Key words: Posttraumatic stress disorder, psychological distress, intrusive rumination, deliberate rumination, perceived social support, posttraumatic growth

INTRODUCTION

Highly stressful and traumatic events typically produce a variety of behavioural, emotional, and cognitive responses. Natural disasters are traumatic events. Trauma is an occurrence that is not within the normal range of the common experience of an individual and may involve threat to life[1]. After exposure to a stressor, stress, anxiety, and depression are prevalent in both the genders. However, there are the distinct pattern of distress responses, rumination patterns, perceived social support and posttraumatic growth. The prevalence of posttraumatic stress symptoms is 15.1% and the traumatic stress responses are significantly associated with traumatic grief, female gender, physical injury, and functional losses[2]. Gender differences in PTSD are a result of differences not only in cognitive appraisal, but also in acute reactions to trauma. Whereas, women are more likely than men to perceive a situation as threatening, rate events as significantly more stressful, and endorse more loss of personal control. Additionally, women are more likely than men to experience acute psychological and biological responses to trauma including intense fear, avoidance, intrusive thoughts, horror, helplessness, panic, and anxiety[3]. Given these differences in responses to trauma, it is possible that similar gender differences exist in posttraumatic growth (PTG). For instance, according to the posttraumatic growth model, higher perceived threat may lead to greater upheaval of an individual's assumptive world, and this pattern sets the stage for greater reports of PTG[4]. Females are more likely to appraise stressors as threatening, contributing to reported gender differences in PTG[5]. It is well documented in the trauma literature that female gender show higher

Naeem Aslam: Clinical Psychologist, RA/Lecturer, National Institute of Psychology, Quaid-i-Azam University, Islamabad - Pakistan.
Anila Kamal: Clinical Psychologist, National Institute of Psychology, Quaid-i-Azam University, Islamabad - Pakistan.
Correspondence:
Naeem Aslam
Email: psy_naeem@yahoo.com

level of distress responses as compare to male gender and women with high disaster exposure had higher risks of PTSD[6,7].

After undergoing the traumatic situation, substantial evidence suggests that rumination is an important vulnerability factor for adolescent depression[8]. although the ruminative thinking that goes on after a traumatic or stressful event has been often considered negative and depressive. Intrusive thinking that may dominate the survivors' experience as they focus on the harm they have experienced[9]. Thus, ruminative thoughts can be viewed not just as intrusive, potentially non-constructive or psychologically harmful, but also as deliberate, reflective, or constructive. Because of this reflective rumination, PTG is the resultant outcome. Females reported higher levels of posttraumatic growth than males[10 11]. Moreover; Adolescent girls reported higher levels of anxiety, rumination, and co-rumination than boys[12] and reported more growth as age increased. Whereas, sense of danger, threat appraisals, and family support partially mediated the relation between gender and growth such that males experienced less sense of danger and less family support than females and, as sense of danger and family support decreased, PTG unexpectedly increased[10]. However, some studies reported the contrary findings that gender was not significantly associated with depression and rumination[13].

The aim of the present study was to investigate the gender differences on trauma responses, perceived social support, rumination patterns and subsequent posttraumatic growth among the individuals who experienced flood 2010 in Pakistan. According to the National Disaster Management Authority (NDMA), the flood caused widespread devastation to property and life over 30 districts[14]. Based on past literature, we hypothesized that there is high level of trauma, distress among the female as compare to male survivors. Females participants perceive more social support as compare to male counterparts. Moreover, female participants exhibit high intrusive and deliberate ruminations and high posttraumatic growth.

SUBJECTS AND METHODS

Sample of this cross-sectional study were the 101 Individuals who exposed to 2010 floods in District Shadadkot, Sindh. The population of this district is 11, 82,554, with 18% Urban and 82% rural population. Whereas, the average household size is 6 to7 persons. Major activities of the people is agriculture, livestock raring, small business and government Jobs. In affected areas of sindh, Shahdadkot stands on Ist number. Its total affected area is 865,800 acres. According to NDMA report, 159091 houses were damaged, 44050 cattle was affected and 497384 acres crop land destroyed. Total 1226 Villages were affeccted in 2010 flood and 145 IDPs camps have been established where more than 8000 people lived[14].

Age range of the participants was 15 to 50 years (M = 27.73, SD = 7.19), with participation of both, men and women. Education level of the participants was from matriculation to masters. The majority of the participants were men (65%) having 12 years of education (61%). Purposive convenient sampling technique was used to approach the respondants.Participants with any diagnosed psychiatric illness were excluded from the sample. The measures consisted of the demographic questionnaire, Urdu translated versions of Depression, Anxiety and Stress scale (DASS), Impact of Event Scale (IES), Event Related Rumination Inventory (ERRI) Multi Dimensional Scale for Perceived Social Support (MSPSS), and The Short- form of Posttraumatic Growth Inventory (PTGI-SF) were used for data collection. The respondents were approached individually. After taking the informed consent from the participants, the purpose of the study was explained to the participants. They were assured that the data would be used only for the research purpose and would be kept confidential.

Alpha reliabilities of all the scales that were used in the study computed. The alpha reliability of DASS has (α =.77); IES (α=.86); ERRI (α =.91); MSPSS (α =.82) and PTG (α= .84). Alpha values show that scales are reliable. Skewedness and kurtosis was computed to see the normal distribution of the data. Results showed that the data is normally distributed. In addition, that the data fulfil the assumption of the parametric statistics. So the data was analyzed by using Predictive Analytics Software (PASW 18). Descriptive statistics and independent sample t-test were used for analyses.

RESULTS

The respondents of the study were educated flood affected individuals, with approximately reasonable participation of females' respondents (36%). The mean age of the participants was 27.73 years. Almost 74% of the participants have some property loss in the flood. 16% males and 19 % females has the severe to extreme severe level of stress, where as 9.3% of males and 9.6 % females have the extreme severe level of depression. While 29 % males and 35 % of females have the severe level of PTSD. Moreover, level of exposure to disaster was positively associated with psychological distress whereas, age and education was negatively associated with the stress, anxiety and depression.

DISCUSSION

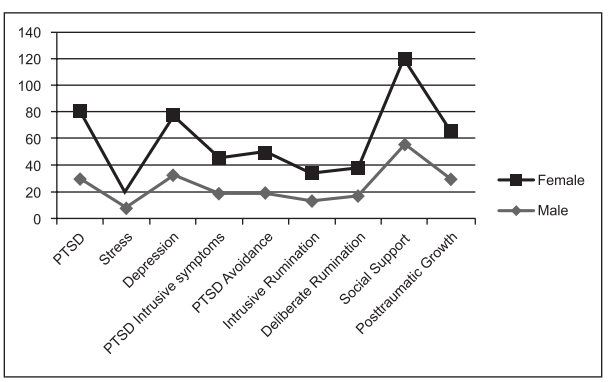
Present study was designed to examine the gender difference on the variables of distress responses, rumination patterns, perceived social support and posttraumatic growth (positive changes as the result of struggling with highly stressful events) among flood affected individuals. Sample included the educated adult male and female survivors. Urdu translations of the self-report measures were used for the assessing the aforementioned variables. T-test of independent sample was used for analyses. Results showed that females participants scored high on distress responses (stress, anxiety and depression), intrusive and avoidance symptoms of PTSD, intrusive/

Table 1: Gender Differences on the Variables of Trauma Responses, Rumination Pattern, Social Support, Psychological Wellbeing and Posttraumatic Growth (N=101)

Variables	Male (n=65)		Female (n=36)			
	Mean	SD	Mean	SD	t	p
PTSD	29.74	13.58	51.29	16.33	5.31	.000
Stress	7.79	3.52	11.50	4.80	3.59	.001
Depression	32.34	4.68	45.31	9.48	5.33	.000
PTSD Intrusive symptoms	18.25	5.90	27.72	5.58	5.10	.000
PTSD Avoidance	18.94	6.66	30.26	4.36	5.57	000
Intrusive Rumination	12.87	6.21	21.26	8.24	4.66	.000
Deliberate Rumination	16.68	6.70	21.27	7.37	2.45	.01
Social Support	55.83	13.75	64.31	8.81	2.14	.03
Posttraumatic Growth	29.7	7.12	35.41	7.74	2.82	.006

Table 1 shows the gender differences on the variable of PTSD, stress, depression, symptoms of intrusive and avoidance symptoms, rumination pattern and posttraumatic growth. Females score higher on all these variables as compare to males. The results are significant ($p < .01$). It supported the notion that distress and PTG coexist.

Figure 1: Gender diffferences on the patterns of traumatic responses, rumination patterns, perceived social support and posttraumatic growth



deliberate rumination, perceived social support and PTG as compare to male flood affectees.

Our findings are in line with past literature, which confirms that natural disasters have the potential to produce a high psychological distress with long-term aftermaths. Despite the fact that both the genders affected, however, female gender report, develop and portray more psychopathology as compare to males. Trauma literature suggests that females of all age (i.e., children, adolescents, adults and old age females) have higher ratio of pathology as compare to males across each age group[15] or whether the event was a natural disaster, or incident of mass violence. Moreover, they are at least twice as vulnerable as men and boys. Females not only showed the high pathology, intrusive and deliberate rumination is also higher among females[16]. The possible explanation could be that females have the tendency to think and ponder over the adverse events, and from this continuous contemplation they find meaning out of the event, that is posttraumatic growth**.** Posttraumatic growth is the identification of the new possibilities in life, change their priorities in life, and improve the relationships and spiritual changes. The findings are consistent with the past researches that reported the evidence of posttraumatic growth with flood-exposed population**[8].** PTG theorists[4] suggest that growth requires negative life events and ruminative activity, and therefore, gender differences in reported PTG may also emerge around puberty. Although ther are mixed findings regarding the expression of benefit findings. Some studies found higher rates of PTG for females[17] and some found higher rates for males[18] most did not find significant gender differences[19]. For example, Israeli male youth reported higher levels of PTG than females, following the events of the Lebanon War[20]. In the meta-analysis examining gender differences in PTG among youth and adults found that females reported higher levels of PTG than males and that age moderated the gender difference, such that females reported more growth as age increased[10]. Sense of danger and family support partially mediated the relation between gender and growth such that males experienced less sense of danger and less family support than females and, as sense of danger and family support decreased, PTG unexpectedly increased. These findings align with results[18] that showed the gender differences in coping behaviors in adults, and the studies that showed that females tend to report greater levels of posttraumatic growth following trauma than males[21]. Whereas, earthquake-related psychopathology was found to be related to female gender[22]. In another study, that was aimed to assess grief and post-traumatic growth in parents, after the death of a premature baby. Findings showed that even 2-6 years after the loss of their infant the parents still suffer a lot from their bereavement. Mothers showed more post-traumatic growth than fathers[23]. Among cancer survivors, females reported more positive growth on four out of the five domains of the measure of posttraumatic growth compared to males, and the oldest cohort experienced lower levels of

positive growth compared with the other two groups. We found that rumination that is considered as the significant predictor of PTG, is higher among females as compare to males. Past studies also found that rumination increases the incidence of depressive symptoms. An evidence of reciprocal brooding rumination to depressive symptoms relationship was found over time among the sample of adolescents[24].

LIMITATIONS

Non-probability samplings, reliance on self-report measures, cross sectional nature of study, and small sample size are the limitations of the study. It should be noted that the present sample approximated the population that resided and worked in the community. We don't have the baseline data, that is there were no data on predisaster protective or vulnerability factors such as prior psychological adjustment, prior traumatic exposure, history of psychopathology, and/or psychosocial support the survivors received after the flood and so on. Future researchers should use of probability sampling with a comparative large sample size for more generalizing of the findings. Moreover, such methodology is required in which dynamics of distress responses, ruminations and PTG can be understood in a single framework.

CONCLUSION

Traumatic responses may continue several years after a natural disaster and may result in significant personal distress and impairment. However, sufficient amount of distress may provoke deliberate rumination and subsequent growth. In addition, the distinct patterns of distress responses, rumination patterns and growth across gender have to be taken into consideration when mental health policies for flood-survivors are planned.

REFERENCES

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Washington, DC: APA; 2000.
2. Rajkumar AP, Mohan TS, Tharyan P. Lessons from the 2004 Asian tsunami: epidemiological and nosological debates in the diagnosis of post-traumatic stress disorder in non-Western post-disaster communities. Int J Soc Psychiatry 2013;59:123-9.
3. Olff M, Langeland W, Draijer N, Gersons BPR. Gender differences in posttraumatic stress disorder. Psychol Bull 2007;133:183-204.
4. Calhoun LG, Tedeschi RG. The foundations of posttraumatic growth: An expanded framework. In: Calhoun LG, Tedeschi RG, editors. Handbook of posttraumatic growth: research and practice. Mahwah, NJ: Lawrence Erlbaum Associates; 2006. p. 3-23.
5. Helgeson VS, Reynolds KA, Tomich PL. A meta-analytic review of benefit-finding and growth. J Consult Clin Psychol 2006;74:797-816.
6. Qu Z, Wang X, Tian D, Zhao Y, Zhang Q, He H, et al. Posttraumatic stress disorder and depression among new mothers at 8 months later of the 2008 Sichuan earthquake in China. Arch Womens Ment Health 2012:15:49-55.
7. Gate MA, Watkins ER, Simmons JG, Byrne ML, Schwartz OS, Whittle S, et al. Maternal parenting behaviors and adolescent depression: the mediating role of rumination. J Clin Child Adolesc Psychol 2013;42:348-57.
8. Aslam N, Kamal A. light at the end of the tunnel: post-traumatic growth among individuals exposed to flood 2010 in Pakistan. J Pak Psych Soc 2013;10:34-37.
9. Taku K, Cann A, Calhoun LG, Tedeschi RG. The factor structure of the posttraumatic growth inventory: a comparison of five models using confirmatory factor analysis. J Trauma Stress 2008;21:158-64.
10. Vishnevsky T, Cann A, Calhoun LG, Tedeschi RG, Demakis GJ. Gender differences in self-reported posttraumatic growth: a meta-analysis. Psychol Women Q 2010;34:110-20.
11. Laufer A, Raz-Hamama Y, Levine SZ, Solomon Z. Posttraumatic growth in adolescence: the role of religiosity, distress, and forgiveness. J Soc Clin Psychol 2009;28:860-2.
12. Jose PE, Wilkins H, Spendelow JS. Does social anxiety predict rumination and co-rumination among adolescents? J Clin Child Adolesc Psychol 2012;41:86-91.
13. Perlick DA, Gonzalez J, Michael L, Huth M, Culver J, Kaczynski R, et al. Rumination, gender, and depressive symptoms associated with caregiving strain in bipolar disorder. Acta Psychiatr Scand 2012;126:356-62.
14. National Disaster Management Authority. National Disaster Management Authority annual report 2010. Islamabad: NDMA; 20011.
15. North C, Nixon S, Shariat S, Mallonee S, McMillen J, Spitznagel E, et al. Psychiatric disorders among survivors of the Oklahoma City bombing. JAMA1999;282:755-62.
16. Taku K, Cann A, Tedeschi RG, Calhoun GL. Intrusive versus deliberate rumination in posttraumatic growth across US and Japanese samples. Anxiety Stress Coping 2008;22:129-36.
17. Yaskowich KM. Posttraumatic growth in children and adolescents with cancer. USA: Dissertation Abstracts International; 2003.
18. Kimhi S, Eshel Y, Zysberg L, Hantman S. Getting a life: gender differences in postwar recovery. Sex Roles 2009;61:554-65.
19. Currier JM, Hermes S, Phipps S. Children's response to serious illness: perceptions of benefit and burden in a pediatric cancer population. J Pediatr Psychol 2009;34:1129-34.
20. Tamres LK, Janicki D, Helgeson VS. Sex differences in coping behavior: a meta-analytic review. Pers Soc Psychol Rev 2002;6:2-30.
21. Benyamini Y, Ein-Dor T, Ginzburg K, Solomon Z. Tra-

jectories of self-rated health among veterans: a latent growth curve analysis of the impact of posttraumatic symptoms. Psychosom Med 2009;71:345-52.

22. Bas ogˇlu M, Sqalciogˇlu E, Livanou M. Traumatic stress responses in earthquake survivors in Turkey. J Trauma Stress 2002;15:269-76.

23. Buchi S, Morgeli H, Schnyder U, Jenewein J, Hepp U, Jina E, et al. Grief and post-traumatic growth in parents 2-6 years after the death of their extremely premature baby. Psychother Psychosom 2007;76:106-14.

24. Jose PE, Weir KF. How is anxiety involved in the longitudinal relationship between brooding rumination and depressive symptoms in adolescents? J Youth Adolesc 2013;42:1210-22.