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Seasonal Psychiatric Consequences of Major Depressive Disorder in Adults Residing in Chitral

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Abstract

Rosenthal et al. (1984) introduced the term of Seasonal Affective Disorder (SAD) as a subtype of major depression which manifests itself in winter season. Its more famous form is winter depression. Past researchers focused on major depression in most of the researches conducted in Pakistan. However, the present study is an initiative to investigate the impact of major depression on SAD and winter depression in adults. Secondly, the study also examined gender differences in depression, SAD and winter depression among adults. Moreover, best and worse conditions in Pakistan due to seasonal changes were also investigated. Personal Inventory for Depression and SAD Scale and depression subscale of Depression Anxiety Stress Scale were major tools of research for measuring SAD, winter depression and depression respectively. Survey method and cross-sectional design is used for data collection from 1000 adults. The study was conducted in Chitral. Linear regression analysis showed that depression positively predicted SAD and winter depression. Independent sample t-test identified gender differences and showed that women exhibited more depression, SAD and winter depression as compared to men. The study confirmed that symptoms of major depression lead towards winter depressions and SAD. Women suffer from MDD, SAD and winter depression more than men counterparts. The study also provided the scientific evidence of seasonality in terms of best and worst conditions among Pakistani adults.

Keywords: *Major Depression, Seasonal Affective Disorder (SAD), Winter Depression, Adults.*

Introduction

The concept of Seasonal Affective Disorder (SAD) is brainchild of Rosenthal et al. (1984). Rosenthal's (2006) famous book *Winter Blues* is considered the most comprehensive document ever produced regarding the detail introduction and explanations of SAD. A research engineer Herb Kern personally experienced SAD in winter and reported it to National Institute of Mental Health where Rosenthal along with a group of researchers started scientific work in US in 1970s (Marshall & Cheevers, 2003). It is a subtype of depression in which major depression is experienced with seasonal patterns along with regular depressive episodes. Depressive symptoms are more persistent in winter and autumn however non-depressive periods are spent in summer and spring. Therefore, the most well-known subtype of SAD is winter depression in which depression is experienced in winter and until the winter is over, depressive

symptoms persist continually. Energy deficiency, depressive and sad moods are common symptoms of SAD. Seasonal behaviors are more prominently reported to exist among women as compared to men. Even women report SAD having more than eight times greater frequency than men counterparts (Lee et al., 2011). The major reason behind SAD is lack of light in winter season and due to this reason during daylight hours in winter, SAD is decreased (Bunney & Bunney, 2000). The prime treatment of these patients is light therapy with sun lights or bright lights (Golden et al., 2005; Howland, 2009) and even evidences suggest that light therapy is more effective when given in early morning rather than later in the day (Leway et al., 2009; Terman et al., 2001). Research (Lam et al., 2006) reported that besides light therapy, melatonin hormone administration, cognitive-behavioral therapy, and antidepressant medications are also important treatments of SAD. Light is also considered as the most important treatment for winter depression (Terman et al., 2001).

Both gender and age are linked with SAD as women are reported to have higher frequency of SAD patients as compared to men counterparts. Even symptoms of SAD among women are more severe than men. Adults are more vulnerable for SAD as compared to children and adolescents. However, at the age of 50, the risk of SAD declines (Isaac et al., 1999). SAD mostly occurs from age 20 to 30 but during starting years, most of the patients do not take psychiatric help (Oren & Rosenthal,1992), Women SAD patients have increased insolence and high glucose levels as compared to men patients of SAD resulting in more sleep and weight gain in women (Emends et al., 1998). The study also examined the effect of depression on the prediction of SAD and winter depression among adults. The present study intended to investigate gender differences in depression, SAD and winter depression. On the basis of these objectives, it was hypothesized that women adults will exhibit higher scores on depression, SAD and winter depression as compared to men adults. It was also hypothesized that depression positively predicts SAD and winter depression among adults.

Method

It is descriptive research which is based on survey method. Participants consisted of adults (N = 1000) with age range from 19 to 28 years (M = 20.28, SD = 4.12). Data were collected from fulltime university students in University of Chitral. Purposive sampling technique was applied. Two assessments measures were used for measuring depression, SAD and winter depression. The first measure Personal Inventory for Depression and SAD Scale (Terman et al., 2003). consisted of 30 items and three subscales including major depression, SAD and winter depression. The SAD Subscale has 6 items which are responded on 5–point rating scale with 0 for no change to 4 for extreme change. Thus 0-24 are minimum-maximum scores. The winter depression has 9 items with dichotomies response pattern in which 1 refers to no whereas 2 refers to yes. Thus 9-19 are minimum-maximum scores. In scoring procedure, low and high scores as well as cut off score are also used. However, low-high scores were used in this research. All the items are positively worded. Reliability of the original scale is .97. Previous study in the European context indicates that it is reliable and has construct validity to measure major depressive disorder, seasonal affective disorder, winter depression among adults (Terman et al., 1998). The second measure Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995). It consisted of 21 items and three subscales including depression, anxiety and stress. Only depression subscale comprising of 7 items was used in this research as this scale can be used to measure depressive symptoms in both normal as well as clinical samples. The scale is based on 4-point Likert type response format. The response categories ranged from 0 for never to 3 for always. In scoring procedure low and high scores as well as cut off score are also used. However, low-high scores were used in this study. All the items are positively worded. Reliability of the original construct is ranging from .82 to .93. Past research in indigenous context indicates that it is reliable and has construct validity to measure major depression among adults (Rashid, 2014).

The researcher personally approached the participants to collect the information. The investigator obtained formal written permission from the concerned authorities of the targeted universities. The participants were given detailed briefing regarding the nature, purpose and importance of the research. Data was collected

from individual participants. Participants were made sure that all the information would only be used for research purpose. Participants were given the right to withdraw from the research at any stage. Written informed consent was taken from the participants. The researcher effectively responded the queries of the participants before, during and after the completion of the scales. After the completion of the scales, the researcher scanned the scales to ensure that all the items were correctly responded. The researcher appealed the participants to complete the items left blank, either intentionally or unintentionally. In scale completion, about 30 to 35 minutes were consumed by the respondents. Response rate was 90%. In the end, participants were appreciated for participation in the study without any tangible incentive.

Results

The study examined gender differences in depression, SAD and winter depression. The study also aimed to examine the effect of depression on the prediction of SAD and winter depression among adults. For this purpose, data was collected through four scales and entered into SPSS-21. Psychometric properties of all the scales were computed. Pearson correlation was computed to study the association among variables. Hypotheses were tested with independent sample *t*-test and linear regression.

Table 1: Psychometric properties and Pearson correlation among variables

Variables	*M*	*SD*	Range	Skewness	Kurtosis	1	2	3
1. Major Depression	8.77	4.12	9-19	.25	.48	(.91)	.24***	.26***
2. SAD	10.28	4.48	10-20	.85	.35		(.98)	.33***
3. Winter depression	11.75	5.18	9-18	.48	.10			(.89)

Note. Alpha coefficients are given in diagonal
***$p < .001$.

Table 1 indicates that depression has significant positive correlation with SAD and winter depression. Alpha coefficients for all scales are greater than .80 which indicates that reliability of all scales is high. Skewness and kurtosis values for all scales are less than 1 and thus showing that data is normally distributed.

Table 2: Regression analysis with major depressive disorder as prediction of SAD and winter depression

Predictor	Model *B*	Outcome	Predictor	Model *B*	Outcome
(Constant)	12.15***	SAD	(Constant)	10.28***	Winter Depression
Depression	.24***		Depression	.26***	
R^2 =	.11		R^2 =	.10	
F =	19.28***		*F* =	17.28***	

***$p < .001$.

Table 2 shows that depression positively predicted SAD by explaining 11% variance. Depression positively predicted winter depression by explaining 10% variance.

Table 3: Mean, standard deviation and *t*-values for men and women adults on study variables

	Women (n = 500)		Men (n = 500)				
Variables	*M*	*SD*	*M*	*SD*	*t* (998)	*p*	Cohen's *d*
Depression	8.77	4.12	7.70	3.28	5.87	.000	.98
SAD	10.28	4.48	8.15	4.25	9.85	.000	.97
Winter depression	11.75	5.18	8.17	4.12	6.25	.000	.80

Table 3 revealed that women adults significantly scored higher on depression, SAD and winter depression as compared to men adults.

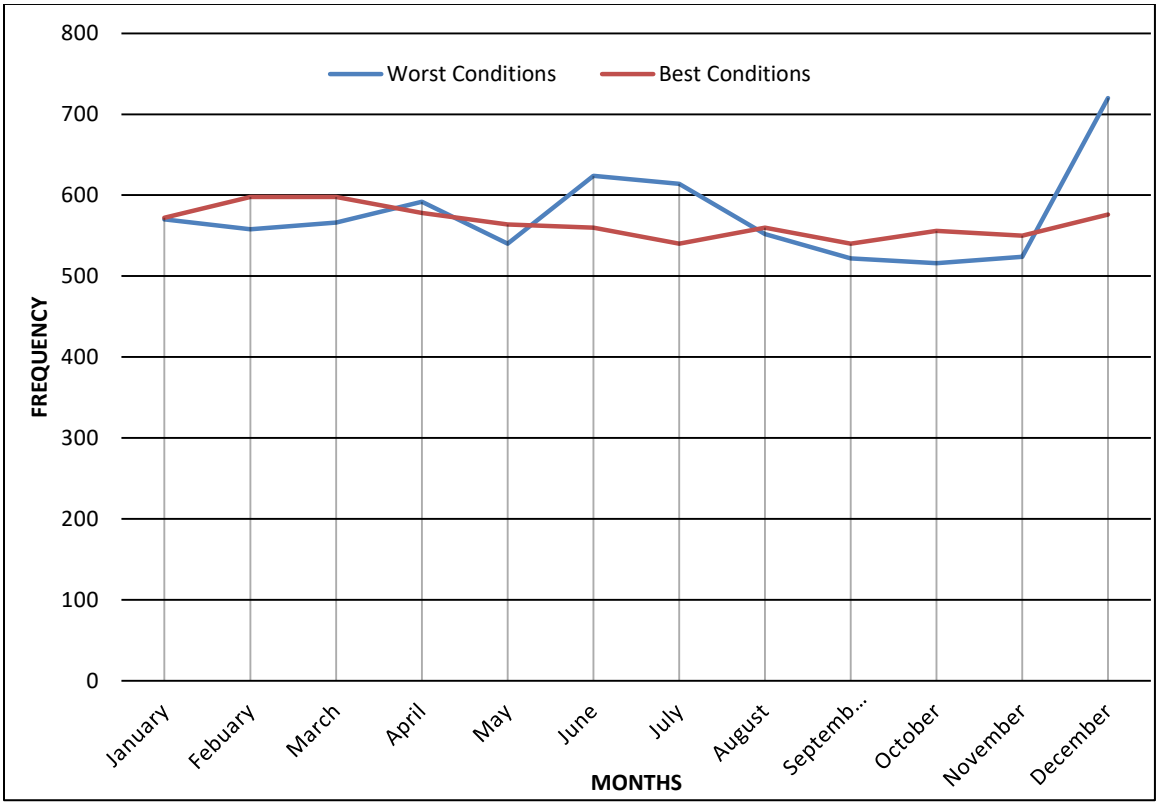

Figure 1. Best and worse conditions due to the positive and adverse effects of seasonal changes in Pakistan

Figure 1 shows that adults from Pakistan portrayed worse conditions in June and July which are peek months of summer season. Similarly, in December, the adults reported worse psychological conditions because December is a peek month of winter season.

Discussion

The concept of SAD is the creation of Rosenthal et al. (1984) which involves depressive symptoms mostly in winter season due to lack of light and consequently the important treatment of such patients is light therapy. The present study examined the gender differences in major depressive disorder, SAD and winter depression among adults. The study also inquired the effect of depression on SAD and winter depression. The hypotheses were supported in the present study. The hypothesis that women adults will exhibit higher scores on depression as compared to men adults was supported in the present research, as findings were in line with the past research (Piccinelli & Wilkinson, 2000) explaining that during adulthood, women are more likely to experience depression as compared to men counterparts (Asghar, 2012). The hypothesis that women adults will exhibit higher scores on SAD as compared to men adults was consistent with the past research which reported significant gender differences in SAD (Leibenluft et al., 1995). Just like SAD, significant differences exist in the coping strategies used by men and women to counter the adverse effects of seasonality and SAD (Gagnon, 2015). The hypothesis that women will exhibit higher scores on winter depression as compared to men adults was supported in the present study. Recent research reported significant gender differences in winter depression which is considerably higher in women as compared to men. SAD and winter depression was approximately twice as common among women and younger persons (Rastad et al., 2009).

The hypothesis that depression is likely to predict SAD and winter depression was also supported. The findings are in line with the prior body of knowledge on depression. In DSM-III-R, SAD was considered as a subcategory of major depressive disorder and bipolar depression (American Psychiatric Association, 1987). However, in the DSM-IV and DSM-V, its status was changed. It is no longer classified as a unique mood disorder but is now a specifier called with seasonal pattern for recurrent major depressive disorder that occurs at a specific time of the year and fully remits otherwise (American Psychiatric Association, 2013). These findings shed light on the fact that besides seasonality, depressive tendencies trigger SAD and winter depression in winter season. Recent research (Magnusson et al., 2000) confirms that even in the Icelandic population, the prevalence of SAD was very low which confirms that the existence of symptoms of major depression elicit SAD and winter depression in fall. However, still seasonality has prominent effects on human beings. The degree to which seasonal changes affect energy, appetite, food preference, mood and sleep, or the desire to socialize with other people is labeled as "seasonality" (Oren & Rosenthal, 1992). It was also examined that how seasonality effects adults from Pakistan. The data was collected from Chitral having severe weather conditions in winter. Thus, adults reported worst conditions in June and July which are relatively hot months in these regions. Similarly, worse conditions were reported by adults in December which is a peek winter month in these regions. In remaining months, overall adults reported better conditions. These findings confirm the adverse effects of seasonality on moods and depressive symptoms.

Conclusion

SAD is described in literature with different nomenclatures including winter blues, seasonal depression, summer blues, summer depression and winter depression. It is mood disorder in which people report normal mental health during the whole year but during winter months they experience sad moods and depressive symptoms (Rastad et al., 2009). The present study aimed at investigating the gender differences in depression, SAD and winter depression. The effect of depression on the prediction of SAD and winter depression was also inquired. All hypotheses were supported in the present research and findings are consistent with the previous researches. Regression analysis showed that major depressive disorder predicted winter depression and SAD among men and women adults. Graphical representation of the data was also given with respect to months. Gender differences revealed that women adults scored high on major depressive disorder, winter depression and SAD as compared to men adults which confirmed that just like most of the mood disorders, women are badly affected by seasonal mood changes and symptoms of winter-linked depression. The research also confirmed the recent changes made in DSM-IV and DSM-V in which SAD and winter depression are considered as subtypes of major depressive disorders, as in the present study, symptoms of depression also predicted the symptoms of SAD and winter depression.

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