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RESEARCH PAPER

Epidemiological Study on the Prevalence of Winter Depression in Pakistan

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ABSTRACT

The study has mainly focused on the prevalence of winter depression in Pakistan. Prevalence of winter blues in the non-clinical sample was also explored. It was an epidemiological study. The data was collected from 1024 participants which is collected through purposive sampling technique. The present research was based on "epidemiology" using descriptive technique to explore the information regarding the prevalence of winter depression and winter blues in Pakistan. Thus the research has described the prevalence of winter depression and winter blues. The frequency depicted that out of the 1024 participants; only 6 were reported to have winter depression, 20% experience winter blues and 74% were not affected by the adverse winter season. Women / girls were found to have more winter depression and winter blues as compared to men / boys. Similarly, adults have higher degree of winter depression and winter blues as compared to more adolescents. Prevalence of the winter depression and winter blues was higher in the high altitudes whereas low in the low altitudes. It was the first epidemiological investigation of the prevalence of winter depression and winter blues in Pakistan which explored factual information for researchers and mental health practitioners.

Introduction

SAD takes two forms as it appears in the form of winter depression (winter specific episodes of major depression) in winter season and manifests itself in the form of summer depression (heightened anxiety) in the summer. Different nomenclatures are used to describe SAD including seasonal depression, winter blues and winter depression. In this regard, winter depression has taken the attention of researchers. Winter depression is a subtype of MDD in which individuals report depressive symptoms in winter season and have mental health throughout the year (Halszka et al., 2014). Seasonal patterns are identified in the higher frequency of depressed patients. Epidemiological estimates confirmed 10-20% prevalence of winter depression in the cases of depression. However, statistics from Europe indicates relatively lower rates of winter depression (Magnusson et al., 2000). Existing researches show that about 1 to 2% patients of major depression disorder have winter depression. However, in normal or non-clinical population, about 10 to 20 % people suffer from winter blues with mild symptoms of winter depression in winter season.

Literature Review

Winter depression is a salient psychological feature of winter season. Short day duration, foggy weather and low light directly affects the individual's mood. Individuals with no depressive symptoms throughout the year experience depressive symptoms in winter months (Halszka et al., 2014). Irrespective of the demographic differences, people are affected by the seasonal changes. Although the effects of those changes are even more sever in some geographic localities with high altitudes. Due to altitudinal differences, prevalence of winter depression across US is ranged from 1.4% to 9.9% for Florada to Alaska respectively (Horowitz, 2008). Thus an average of US population suffering from winter depression is 5% (Isaac et al., 1999) which confirms the escalating prevalence of winter depression. In accordance, the present study has focused on the prevalence of winter depression. Thus the core emphasis of the present study is on the identification of prevalence of winter depression across different demographic differences (with varying altitudes). It is worth noticing that this is first ever empirical attempt to investigate the prevalence of this disorder through an epidemiological study.

The existing researches also confirm that gender, age and previous family history of winter depression are linked with experiencing winter depression. Data reveals that 3 out of 4 victims of winter depression are female, more aged individuals reports higher percentage of winter depression and those having family history of winter depression are also at greater risk. Seasonal behaviors are more prominently reported to exist among female as compared to male. Even female report SAD having more than eight times greater frequency than male counterparts (Lee et al., 2011). Four out of five people who have seasonal depression are women (Horowitz, 2008). Similarly, Adults are more vulnerable for SAD as compared to children and adolescents. However at the age of 50, the risk of SAD declines (Rastad, 2009). SAD mostly occurs from age 20 to 30 but during starting years, most of the patients do not take psychiatric help (Oren, 1992). Rastad (2009) found 28.6% prevalence of winter depression in less aged (18–24 years) as compared to more aged (55-64 years) which was 11.3%. Besides age, (Levitt & Boyle, 2002) altitude has clear impact on the prevalence of seasonal and even non-seasonal depression.

Material and Method

The study intended to explore the prevalence of winter depression and winter blues during winter season in Pakistan, to identify the differences in the occurrence of winter depression along altitude, gender and age and to identify the differences in the occurrence of winter blues across altitudes, gender and age.

Participants

Sample comprised of adolescents and adults (N = 1024) from low altitudes (n = 512, 50%) to high altitudes (n = 512, 50%) which were Sargodha and Hunza respectively with age ranged from 20 to 30 years respectively (M = 24.87, SD = 4.33). Boy / men (n = 512, 50%) and girls / women (n = 512, 50%) were part of sample. Adolescents with age ranged from 20 to 23 years (n = 512, 50%) and early adults with age ranged from 24 to 30 years (n = 512, 50%) were part of sample. Data was further divided in terms of altitude, gender and age. Sample was approached through purposive sampling technique. Inclusion criterion was based on altitude, gender and age.

Instruments

Personal Inventory for Depression and SAD (PIDS) by Terman et al. (2003) consisted of 30 items and 4 sub scales included (SAD, winter depression, major depressive disorder, and seasonal symptoms. A 5-point Liket scale for SAD, dichotomy for winter depression with

0 = *no change* and 4 = *extreme change* and 0 for *no* and 1 for *yes*. Minimum and maximum scores ranged from 0-24 for 6 items SAD, 0-9 for 9 items winter depression. Reliability of the sample is up to .97.PIDS was translated by the research following forward-back translation method. Winter depression was measured by using winter depression subscale of PIDS. Winter blues were measured by using SAD subscale of PIDS.

Procedure

The researcher personally approached the participants in low altitude Sargodha. The investigator obtained formal written permission from the concerned authorities of the targeted university i.e. University of Sargodha. Participants were given detailed briefing regarding the nature, purpose and importance of the research. Data was collected from individual participants. It was communicated 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. Researcher effectively responded to the queries of the participants before, during and after the completion of the questionnaires. After completion of the scales, researcher scanned the scales to ensure that all the items were correctly responded. In scale completion, about 35 to 40 minutes were consumed by the respondents. Response rate was 92%. In the high altitude Hunza, the data was collected by a local expert psychologist (key informant) on the place of the researcher by following the same procedure mentioned above.

Results and Discussion

The study intended to identify the prevalence of winter depression and winter blues from a non-clinical sample. Furthermore, the prevalence of winter depression and winter blues is also identified along altitude, gender and age.

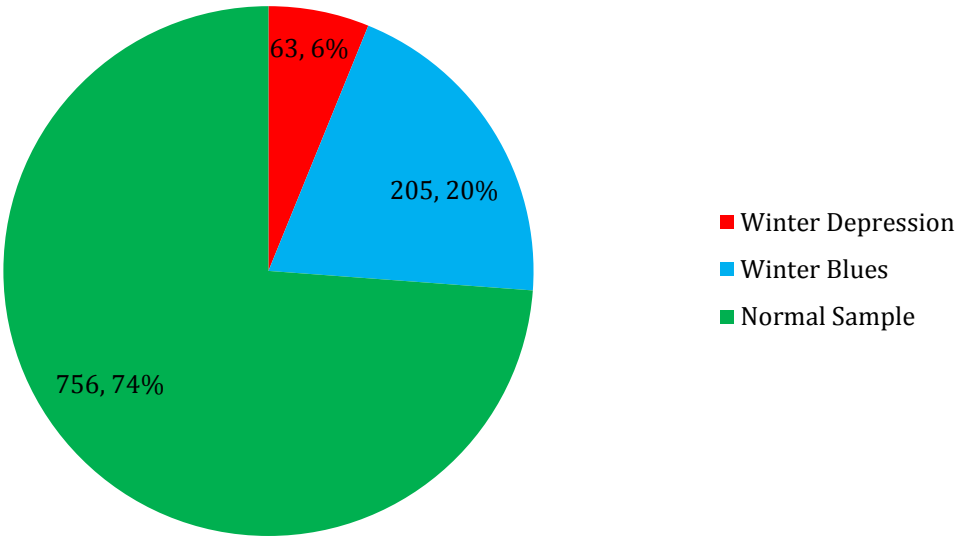

Figure 1: Frequency and percentage of the prevalence of winter depression and winter blues

The frequency depicted that out of the 1024participants; only 6 were reported to have winter depression, 20% experience winter blues and 74% were not affected by the adverse winter season.

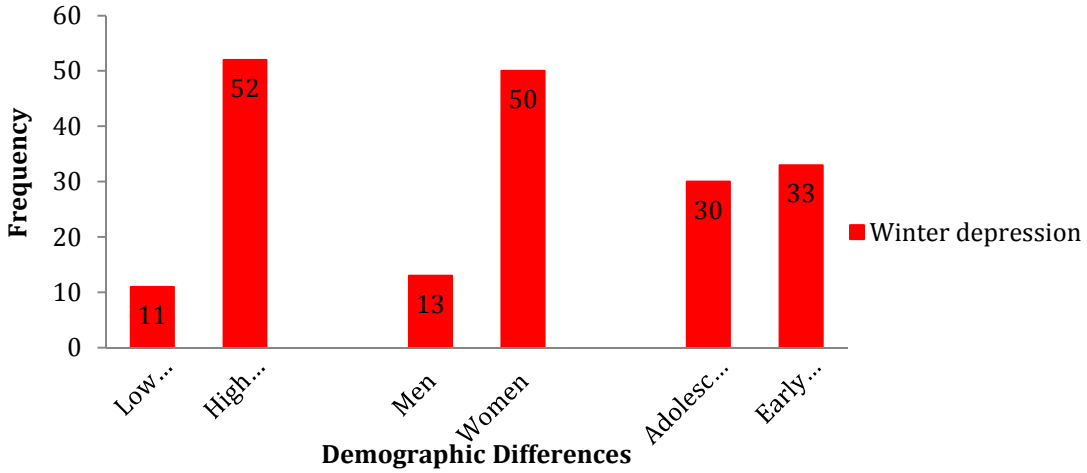

Figure 2: Prevalence of winter depression across demographic differences in Pakistan

Frequency depicted that residents of high altitude exhibited higher prevalence of winter depression in winter season as compared to low altitude. Women exhibited higher prevalence of winter depression in winter season as compared to men. Early adults exhibited higher prevalence of winter depression as compared to adolescents.

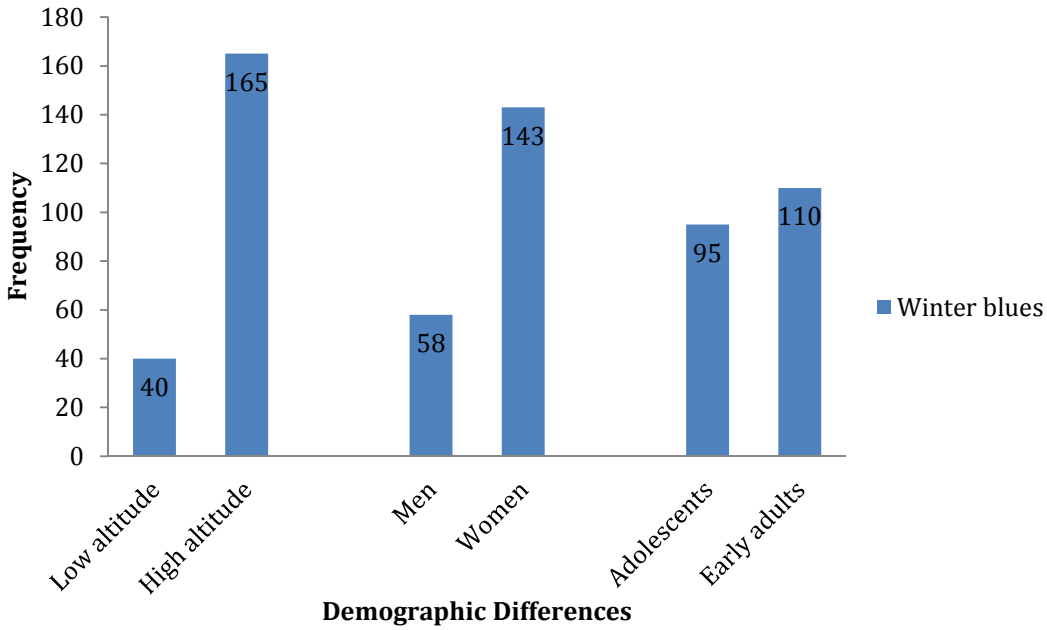

Figure 3: Prevalence of winter blues across demographic differences in Pakistan

Frequency depicted that residents of high altitude exhibited higher prevalence of winter blues in winter season as compared to low altitude. Women exhibited higher prevalence of winter blues as compared to men. Early adults exhibited higher prevalence of winter blues in winter season as compared to adolescents.

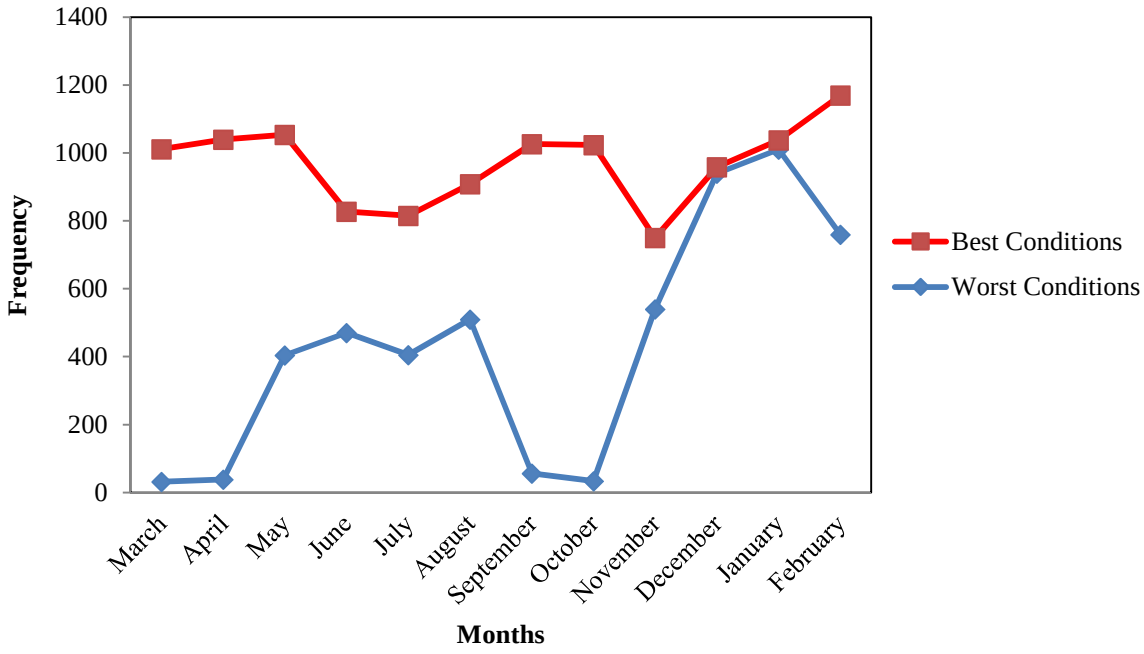

Figure 4: Frequency of best and worst weather conditions across the year in Pakistan

The frequency indicates that residents experience best conditions in February, March, April and May. The frequency depicted that residents of Pakistan experience worst conditions in June, July, August, November and December.

Discussion

"Epidemiology" is a specialized research methodology which is used to find out the prevalence of different disorders, their symptoms and features (Porta, 2008). The study examined the prevalence of winter depression in the winter season in Pakistan. However, the lack of excess to the different areas due to the geographical diversity of Pakistan limited the chances to study the prevalence of winter depression across the contrary. However, data was collected from both high altitudes and low altitudes. Thus data was collected from versatile geographical localities including Sargodha and Hunza known as low and high altitudes respectively. Information was collected from adolescents and adults residing in the low and high altitudes of Pakistan including Sargodha and Hunza respectively. Thus with the mental health experts (key informants), winter depression scale was administered on the residents of Hunza while the researcher personally administered this scale on the participants residing in Sargodha.

The winter depression scale was administered on 512 participants from low altitude (Sargodha) out of which 11 (2.15%) individuals were identified with winter depressive episodes. However in the high altitude (Hunza), the prevalence of winter depression was 10.16% as 52 out of 512 were identified with winter depression. Thus the prevalence of winter depression by considering two versatile geographical areas in Pakistan was about 6.15% (63 out of 1024). The prevalence was consistent the prevalence of winter depression reported in existing epidemiological studies which confirmed that its prevalence fluctuates in between 0 to 10% with varying altitudes (Cotterell, 2010; Gagnon, 2015). Thus besides scale, question was added at the end of the scale asked for "if they have experienced the same conditions before" have you experienced the same conditions (as mentioned in the questionnaire) in the last winter seasons. Thus for the prevalence, only the data of a patient counted in the prevalence who may not only identified as winter depressed on the scale but

also reported the same experience in the proceeding winter season. For more authenticity, they were also requested to confirm that they have reported winter depression in the case history (more specifically in the last winter season).

Gender differences on winter depression were also of vital consideration. Women and adolescents are soft targets of severe winter season and thus epidemiological estimates reported higher prevalence of winter depression in these groups as compared to men and adult counterparts (Rastad, 2009). Research (Gagnon, 2015) found that among the patients of seasonal depression 80% are women. In short gender differences are found on the severity of symptoms, prevalence of winter depression and the methods of coping (Levitt & Boyle, 2002). Women are found to have 3 times greater prevalence in comparison of men counterparts. In the present study, out of 63, 50 (79.37%) were women and 13 (20.63%) were men—the estimates were in line with the above stated data suggesting that the more or less the women victims of winter depression is 80% or three times greater than men.

Age is another important relevant factor of winter depression. Out of 63, 30 (47.62%) were adolescents (between 20 to 23 years) and 23 (52.38%) were early adults (from 24 to 30 years). The findings confirmed the existing knowledge that the prevalence of winter depression decreases with the course of aging (Rastad, 2009). It increases from adolescence to young adulthood and then decreases in the middle age. Cotterell (2010) clarified that the main age of onset of seasonal depression is between 20 and 30 years of age, however symptoms can appear earlier, after while it declines. Finally at the age of 50 and above, the risk of winter depression is no more (Isaac et al., 1999). Thus late adolescents and early adults—who are at high risk of winter depression as compared to rest of age groups—should make use of preventive measure to protect their selves from the risk of winter depression.

Moreover, the second objective of the present epidemiology was to identify the prevalence of winter blues in the non-clinical sample. Seasonal changes do not affect all individuals equally. Some are at the high risk of winter depression or depressive symptoms whereas some others are at a little risk (Rastad et al., 2005). Besides winter depression, the existing epidemiological estimates confirm that about 20% individuals from normal population (non-clinical) suffer from winter blues. For this purpose, data 1024 individuals from two locations was collected on winter blues which indicated that the prevalence of winter blues is 20.02% (205 out of 1024). This percentage was slightly higher than the already available estimates which confirm that the prevalence of winter blues is about 20%. However, American Psychiatric Association (2013) reported that nearly 20% Swedish residents suffer from winter blues. This escalating prevalence of winter blues in the normal population can be due to many reasons. Apparently, more convincing reason is their "severe conditions" in the winter season due to lack of winter protection facilities in foggy weathers. No preventive measures are taken which results in winter-induced depressive symptoms and winter blues. In the recent years, smog has doubled the trouble. Life style and living conditions have clear role in occurrence of winter depression.

The third objective was to identify the prevalence of winter blues across demographic differences (altitude, gender and age). In high altitudes (Hunza—altitude 2500m—which is in some areas at more than 6000m altitude) the prevalence of winter blues was 80.49% (165 out of 205) and in low altitudes (Sargodha—altitude 190m) the prevalence of winter blues was 19.51% (40 out of 205). It is important to note that form the individuals suffering from winter blues, above 80% population living at high altitudes. These are hard areas in which life is very difficult because of the damaging effects of frost, snowfall and adverse weather conditions. In the same areas is the second highest mountain K-2 (8611m altitude—length from sea surface). Low quality of life multiplies the trouble of the individuals living in hard areas. With regard to winter blues, gender has utmost relevance.

Almost entire available scientific literature is evident on the greater prevalence of winter depression and winter blues in women as compared to men. Identifying the winter blues along gender lines confirmed that out of 205, 143(70%) were women and 58(30%) were men. Existing estimates confirmed that higher frequency of women experience winter depressive episodes (winter blues) as compared to men counterpart (Shaukat, 2015). The study has depicted the similar trends. Higher frequency of early adults was sufferer of winter blues as compared to adolescents as out of 205, 110(53.66%) were early adults and 95(46.34%) were adolescents. This is also in line with the existing epidemiological estimates.

The final objective of the epidemiology was to collect the date on the adverse effects of winter across the calendar year. The self-reported date indicates that individuals residing in different residential areas face "worst conditions" in this season including "some summer months" and "severe winter months". Most of the participants shared their opinion that in severe winter and summer season, their conditions are very bad. However in the remaining months, individuals face "better conditions" (Rosenthal & Benton, 2013). Along with severe weather, resources inadequacy doubles the troubles of people in Pakistan and consequently they face intense weather symptoms take winter blues in fall and anxiety in the summer. In this regard, numerous preventive measures can be taken to cope with winter blues (Myburgh et al., 2017).

Conclusion

Epidemiological studies plays vital role in the modern population based health management programs which require authentic information regarding risk factors, prevalence and severity of different health related problems in a society, well before administration of a specific health management framework [18]. The epidemiological information collected in the present study is clinically valuable and can be effectively used for micro level interventions for individual patients of winter depression and macro-level interventions for individuals experiencing winter blues in winter season.

References

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington: American Psychiatric Publishing.

Cotterell, D. (2010). Pathogenesis and management of seasonal affective disorder. *Progress in Neurology and Psychiatry, 14*(5), 18-25

Gagnon, A.S. (2015). *Coping and Gender Differences in Seasonality and Seasonal Affective Disorder.* Honors College. Paper 50. Retrieved December 12, 2021, from http://digitalcommons.library.umaine.edu/honors/50

Halszka, O., Katarzyna, O. (2014). Chronotype and Personality Factors of Predisposition To Seasonal Affective Disorder". *Chronobiology International: The Journal of Biological & Medical Rhythm Research, 31*(4), 523–531. doi:10.3109/07420528.2013.874355.

Horowitz, S. (2008). Shedding light on seasonal affective disorder. *Alternative and Complementary Therapies, 14*(6), 282–287.

Isaac, M., Neuhaus, P. J., Schwartz, E. H., Turner, F. N., Jeffery, R. M., Mathews, R., Lam, G., Norman, E. R. (1990). Gender differences in Glycosylated Hemoglobin levels in Seasonal Affected Disorder patients and controls. Com Psychiatry, *40*, 234-237.

Kurlansik, S. L., & Ibay, A. D. (2012). Seasonal Affective Disorder. American Family Physician, *86*(11), 1037-1041.

Lee, H. J., Caroline, M. N., John, R. K., & Daniel, F. K. (2011). Delayed sleep phase syndrome is related to seasonal affected disorder. *Journal of Affective Disorder, 133*, 573-579.

Levitt, A. J., & Boyle, M. H. (2002). The impact of altitude on the prevalence of seasonal depression. *Canadian Journal of Psychiatry*, *47*(4), 361-367.

Magnusson, A., Axelsson, J., Karlsson, M. M., & Oskarsson, H. (2000). Lack of seasonal mood change in the Icelandic population: Results of a cross-sectional study. *American Journal of Psychiatry, 157*(2), 234–238. doi:10.1176/appi.ajp.157.2.234

Oren, D. A., & Rosenthal, N. E. (1992). Seasonal affective disorders. In Paykel ES (ed), *Handbook of Affective Disorders.* London (2nd ed.), Churchill Livingstone.

Rastad, C. (2009). *Winter fatigue and winter depression. Prevalence and treatment with bright light* [thesis], Uppsala University, Uppsala, Sweden.

Rastad, C., Sjödén, P. O., & Ulfberg, J. (2005). High prevalence of self-reported winter depression in a Swedish county. *Psychiatry Clinical Neuroscience, 59*(6), 666-75.

Rosenthal, N. E., & Benton, C. M. (2013). *Winter Blues Survival Guide A Workbook for Overcoming SAD.* Guilford Press.

Shaukat, S. (2015). *Major depressive disorder, seasonal affected disorder and winter depression among adults: A study of environmental psychology* (Unpublished thesis). University of Haripur. Pakistan.

Terman, M., White, T., & Williams, J. B. W. (2002). *Personal Inventory for Depression and SAD. Clinical Tools Packet, Center for Environmental Therapeutics.* New York. Clinical Chronobiology and Biometrics Research groups at Columbia University's Psychiatry.