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Asthma and Gender As An Influencing Factor of Depression

Mohini Mittal
Post Doctoral Fellow,
Deptt.of Psychology,
Meerut College,
Meerut, UP

Israil Miya
Head,
Deptt.of Psychology,
Meerut College,
Meerut, U.P.

Abstract

The main objective of the present research was to find out the effect of Asthma & Gender on Depression. For this purpose, a sample of 400 asthmatic (N=200) and non-asthmatic (N=200) adolescents was selected. Further both the groups were consisted of 100 male and 100 female with the age range of 16-18 years. Hindi version (Kapoor, 1987) of Depression Scale, originally constructed and standardized by Beck (1977) was used for assessing the level of depression among the subjects, t-test and two way analysis of variance (ANOVA) wasused for analysing the data. Results show that asthmatic adolescents are more depressed than the normal adolescents. It is also observed that asthma with the interaction of gender difference in substantial in contributing the level of depression among the respondents.

Keywords: Depression, Gender, Asthma, Adolescents

Introduction

Asthma is a chronic respiratory disease affecting people of all ages. It is one of the most frequently reported chronic respiratory disorders, although if managed effectively most patients can be helped to function normally. Asthma is a condition marked by short breathes, coughing, and wheezing, which may culminate in dangerous paroxysms of breathlessness'. An asthma attack may last from a few minutes to several days. J.C. Colman(1976) has stated that many asthmatics begin to wheeze in the presence of household dust , tobacco smoke , cold air , and other condition that do not bother other people so much .There are several types of asthma, each with its own causes and trigging stimuli but probably the most common is allergic asthma, initiated by something in the environment to which the individual has become sensitized (ELLIS , 1970).Although the precise way in which sensitization occurs is not known, once it take place the individual will develop symptoms in the presence of the allergens. The last form of asthma may be triggered by emotional stimuli and may occur in infancy as well as in later life.

Depression is an illness that increasingly afflicts people worldwide, interfering with concentration, motivation and many other aspects of everyday functioning. It is a complex disorder, involving many symptoms of the body, including the immune system, either as cause or effect. It disrupts sleep, and it interferes with appetite, in some cases causing weight loss, in others weight gain. Because of its complexity, a full understanding of depression has been elusive.

The three main types are bipolar disorder, major depressive disorder (clinical depression), and persistent depressive disorder.

Many authors have analyzed the association between atopic/allergic diseases and psychological disorders such as anxiety and depression (Bell IR, 1991; Cuffel B, 1999; Timonen M, 2003; Postolache TT 2008; Slattery MJ, 2011; Lv X, 2010). The findings of the study showed that the effect of AR (Allergic Rhinitis) on the psychological profile of patients was independent of age and gender, but significantly associated with comorbid asthma.

Walters et al (2011) demonstrated a significant association between asthma-related depression and increased mortality, despite being independent of asthma severity of corticosteroid use. Several studies have reported high rates of abnormal psychological profiles in patients with asthma (approximately 50% of patients with AR had depression, anxiety, or both) Mancuso CA (2000), Kolawole MS (2011), Chapman D (2005). Goodwin et al., (2004) found that there was a higher probability of depression in this disease, hence, the results are not significant.

According to World Health Organisation estimates, 235 million people suffered from asthma worldwide, 255, 000 of which died because of

this disease in 2005 (WHO, 2013).Asthma prevalence figures are about 5% amongst the general population and about 8-10% amongst children (Carlsson et al., 2013) The depression frequency amongst the group of asthma sufferers was 12% versus 3% amongst the group of healthy people, which mean that the correlation between asthma severity and depression was statistically significant (Espinosa et al. 2001).

Fernandez-Rodriguez (2003) obtained statistically significant differences regarding greater depression symptoms in the group of asthmatic patients using two samples, one with 63 asthma patients from outpatient hospital services and another with 65 healthy individuals, with the sample composition in terms of age and gender. Belloch et al. (1994) – with a sample of 51 adult patients (between 18 and 71 years old)- found a higher rate of depressive personality prevalence in female asthma patients than in male ones.

Di Marco et al. (2010) found a positive correlation between asthma and depression, especially in those cases where the disease was unsatisfactorily controlled, and this was associated to a more frequent use of hospital assistance.

Pietras et al. (2011) found a significantly higher presence of depression in the asthma group, and they correlated this to asthma severity. Fernandez-Rodriguez and Miralles (2014) – in a sample of 129 individuals, 63 with asthma and 66 healthy - found a higher depression rate in the asthma patients.

Bruner, Schreiner, Sood and Jacobs (2014) assessed- in a wide longitudinal study that depression can be a marker of asthma incidence risk in adults. On the other hand, asthma prevalence is not associated to initial depression incidence in adults.

Asthma as a dependent variable is influenced by a number of psycho-physical and environmental variables. In this connection role of gender difference and depression in the development of asthmatic symptoms cannot be underrated. In previous research investigations, it is reported that the symptoms of asthma and its severity are associated with depression (Goldney et. al; 2003).Another study by Janson et. al; (1994) found significant positive correlation between depression (as determined by the Hospital Anxiety and Depression Scale (HADS)) and various, but not all, symptoms of asthma.

On the basis of above discussion, it is evident that depression is a strong contributor of asthma. Keeping this point in view, the present study was undertaken to explore the possible impact of depression on asthma among male and female adolescents.

Aim of the Study

To know the level of depression among the groups of asthmatic and normal subjects.

Hypothesis

Keeping the objective in mind some hypotheses are formulated.

1. Asthmatic and normal subjects will differ significantly in terms of their scores on Depression.
2. Male and female subjects will differ significantly in terms of their scores on Depression.
3. Male and female subjects of asthmatics as well as normal groups will differ significantly in terms of their scores on Depression.

Methodology

Sample

The sample was comprised of 400 adolescents (age range 16-18) yrs including 200 asthmatics and other 200 who were non-asthmatic.

Tools used

The Hindi version (kapoor,1987) of Depression scale, originally constructed and standardized by Beck (1977) was used for the measurement of the level of depression among the subjects.

Statistical Technique

For analyzing the data t-test and analysis of Variance were used.

Table -1

Comparison of Asthmatic and Normal subjects in terms of their scores on depression.

Groups	N	Mean	S.D.	t-Value
Asthmatic	200	30.24	8.55	5.87*
Normal	200	24.72	10.16	

***** Significant at .01 level

An inspection of the results as presented in table-1 reveals that the students of asthmatic group have scored significantly higher (mean= 30.24) on depression scale in comparison to the students of normal group (Mean = 24.72). The comparison between two means has yielded a t-value of 5.87 which is significant at .01 level of confidence. It indicates that the asthmatic students have more depression than normal students. Therefore, the hypothesis formulated in the present context gains support from the present findings.

In this direction male and female subjects of the total sample were also compared in connection with the verification of the hypothesis that male and female subjects will differ significantly in terms of their scores on depression. The findings of the present study were presented in table-2.

Table -2

Comparison of Male and Female subjects in terms of their Scores on Depression.

Groups	N	Mean	S.D.	t-Value
Male	200	33.77	11.07	1.65
Female	200	31.90	11.66	

The findings as presented in table-2 reveal that the subjects of male group have scored higher (mean = 33.77) in comparison to the subjects of female group (mean = 31.90) on depression scale. However, the comparison between two means has yielded a t-value of 1.65, which is not significant even at .05 level of confidence. It indicates that gender of the subjects does not contribute significantly to the level of depression among them. Therefore, the hypothesis formulated in the present context does not gain support from the present findings.

On the basis of above discussion it can be concluded that these two variables Gender difference and asthma are substantial in contributing significantly to the level of depression in their personal capacity. However, a question is still unanswered that these two variables affect significantly to the level of

depression in their interactional capacity or not? In this connection, in the present study, it was hypothesized that male and female subjects of asthmatic as well as normal groups will differ significantly in terms of their scores on depression. To test this hypothesis, two way analysis of variance was employed and findings were presented in table-3.

Table -3

Analysis of Variance of Depression Scores of Male and Female Subjects of Asthmatic and Normal Groups.

Groups	df	SS	MS	F-Value
Gender (A)	1	34.46	34.46	2.45
Groups(B)	1	145.68	145.68	10.36*
Interaction (Ax B)	1	79.53	79.53	5.66**
Error	396	5564.11	14.05	
Total	**399**			

* Significant at .01 level

** Significant at.05 level

ANOVA results as presented in table-3 reveal that the main effect of gender difference is found to be not significant beyond chance (F=2.45,df=1/396, p.>.05). It shows that gender of the subject is unable to affect to the level of depression among the respondent. These findings are not matched with the findings as presented in table-2, where depression scores were differentiated significantly between male and female subjects. Thus, it can be concluded that this variable has a need of further verification in the studies to be conducted in the same area in the future. However, the main effect of groups (F =10.36, df =1/396, p<.01), as well as interational effect between gender and groups (F = 5.66 df=1/396, p<.05) were found to be significant statistically. It indicates that asthma in itself and also with the interaction of gender difference is able to contribute significantly to the level of depression among the subjects.

Conclusion

On the basis of the findings of the present study, it can be concluded that Asthmatic patient are more depressed than non-asthmatic one. Depression in itself and also with the interaction of sex-difference contribute significantly to the asthma.

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