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RESEARCH PAPER

Asthma Blues: Socio-Demographics as Predictors of Psychological Distress among Asthma Patients

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ABSTRACT

The current research designed to investigate the socio-demographics as predictors of psychological distress among asthma patients. Asthma is a chronic respiratory condition which is characterized by airways restriction and has co-morbid psychological distress. The study design was correlational, comparative and within group design. Through purposive sampling, 120 asthma patients were taken from different public and private clinics and hospitals of Faisalabad's. The variables were measured using the Depression, Anxiety, and Stress (DASS) Urdu version (Aslam, 2007). The data were analyzed using Pearson's product moment correlation coefficient (r), regression analysis and independent t-test. The findings showed a highly substantial correlation between asthma and psychological distress. It was concluded that female, older adult and chronic patients show higher level of Depression, Anxiety and Stress and are the strong predictor of psychological distress among asthma patients. It is suggested that the specific asthma illness be selected for future research in order to get the most precise and comprehensive information.

KEYWORDS Asthma, Socio-Demographics, Psychological Distress, Patients, Depression, Stress, Anxiety

Introduction

Asthma is a chronic respiratory condition which is characterized by airways inflammation, bronchial hyper-reactivity, and fluctuating airflow restriction. Currently, over 300 million people globally suffer from asthma, and different populations have different prevalence, severity, and mortality rates (Global Initiative for Asthma, 2022). Although most people consider asthma to be a medical ailment, its impact on mental health has just recently been discovered. The general terms for psychological distress, which is common as co-morbidity in asthma patients, include anxiety, depression, and stress. This has a significant impact on asthma patients' overall health outcome, quality of life, and illness management (Ji et al., 2022).

The purpose of the current study is to assess socio-demographic factors as potential indicators of psychological suffering in asthmatic patients. Due to the chronic nature of asthma, patients constantly worry about flare-ups, which can lead to psychological issues including stress, anxiety, and melancholy. Stress, worry, and sadness are among the psychological side effects that asthmatics are more likely to experience.

The psychological distress experienced by asthma patients varies based on several socioeconomic factors. The frequency and severity of psychological discomfort among the public are influenced by several factors, including gender, age, education level, socioeconomic status, and ethnicity. By discussing these variables, more individualized treatment plans can be suggested, perhaps improving patient results and lessening the psychological toll that asthma has on those who experience it (Ashager, 2023).

Patients with asthma face additional psychological strain due to the chronic nature of their condition and its unpredictable episodes of aggravation. Higher levels of anxiety and sadness may be exacerbated by recurrent symptoms, ongoing drug use, and fear of further episodes (Santillo, 2023).

Additionally, the physical limitations associated with asthma, such as the inability to exercise or attend social events, exacerbate feelings of loneliness and raise stress levels. A study by Liu et al. (2023) suggested that there is correlation exists between inadequate asthma control and increased anxiety and sadness, frequent asthma exacerbations, and increased health care utilization.

In general, it has been believed that psychological distress are unique to asthma. Patients with asthma are greatly impacted by serious psychological difficulties such as stress, worry, and sadness. Since these psychological factors are what aggravate asthma in patients, reducing depressive, anxious, and stress-related symptoms can help control asthma (Denche-Zamorano, 2022).

Furthermore, a long-term treatment plan which can occasionally be mentally and physically challenging is typically required for chronic asthma. One may feel burdened by disease due to the aggravation and exhaustion of taking medication daily, needing to visit the doctor for follow-up tests rather regularly, and generally changing lifestyle (Alqarni et al., 2024).

When it comes to asthma sufferers, these socio-demographic factors typically indicate psychological discomfort. This issue is exacerbated by the predisposing characteristics of age, gender, socioeconomic situation, educational attainment, and ethnicity. These are, of course, a few of the main elements influencing asthmatic sufferers' mental health. Health care providers will be able to take steps to ensure the general and psychological well-being of asthma patients by recognizing this.

Literature Review

Psychological distress has been associated with a wide range of physiological illnesses, such as cancer, heart disease, asthma, hepatitis, and physical handicap. In the current research stress, anxiety, and depression among asthmatic patients have been investigated.

Adults with asthma use more psychotropic drugs and had higher probabilities of anxiety and depression (Ji et al., 2022). During COVID-19, patients with asthama had experienced higher levels of anxiety, perceived stress, and burnout which had worsen their symptom (Salsman et al., 2023).

Importantly, asthmatic distress is regularly influenced by gender. Research studies highlight gender-specific symptomatology by demonstrating that depression predicts death among women with asthma independently (Lin et al., 2022).

According to earlier studies, it was founded that there are age-related inconsistencies are exits. During the pandemic, some studies found that younger adults were more stressed and burned out (Salsman et al., 2023), indicating context-dependent vulnerabilities. However, other studies found that midlife and older adults were more distressed, particularly when multi-morbidity and sleep disturbance were present (Aldabayan et al., 2023).

Additionally, a number of descriptive studies show that marital status and close partner dynamics are significant but under-reported variables. Researches indicated that

patterns who have better marital relation are good in coping with physiological and psychological distress (Wei et al., 2025).

Furthermore, it was investigated that employment and education often follow distress such as unemployment and lower educational attainment are associated with worse psychological status, more sleeplessness, and lower HRQoL (Rask-Andersen et al., 2022; Jarab et al., 2023).

Moreover, it was investigated that asthmatic patients from lower socioeconomic status seems to be poor in clinical and psychological outcomes (Cardet et al., 2022). In a previous study that was conducted in the United Kingdom indicated that those from the most impoverished districts showed worse asthma indicators combined with higher levels of comorbidity and depression/anxiety (Busby et al., 2021).

Hypotheses

To achieve the mentioned objectives following hypotheses are considered:

H1: Depression, Anxiety, and Stress likely to have a significant positive relationship among asthma patients.

H2: The Gender, Age and Severity of the illness would be strong predictor of Depression, Anxiety, and Stress among asthma patients.

H3: Female would likely to have higher scores on Depression, Anxiety, and Stress Scale the male asthma patients.

H4: It would be a significant age-related difference on scores of Depression, Anxiety, and Stress Scale among asthma patients.

H5: Chronic asthma patients would have higher scores on Depression, Anxiety, and Stress scale as compared to acute asthma patients.

Material and Methods

Using a purposive sampling technique, 120 asthma patients from various government and private hospitals and clinics in Faisalabad were chosen. In the current study, correlational and comparative and within-group research designs were employed.

Research Instruments

Depression, Anxiety and Stress Scale (Dass)

The self-reported inventory known as the DASS was created by Lovibond and Lovibond (1995). The forty-two-item test consists of three self-report measures meant to gauge the negative emotional states of stress, anxiety, and depression. With an emphasis on state over trait, each of the 14 items on the scale is assessed on a four-point Likert scale according to the intensity of the participant's experiences during the preceding week. The translated Urdu DASS (Aslam, 2010) alpha values for depression, anxiety, and stress were .72, .74, and .74, respectively. In the normative sample, the Depression scale had a reliability score of 0.91, the Anxiety scale was rated at 0.84, and the Stress scale was rated at 0.90 according to Cronbach's alpha scores.

Data Collection

The current study comprised twenty asthma patients from different government and private hospitals and clinics in Faisalabad. Informed consent was obtained from the

patient's friends and family in addition to administering the questionnaire. Patients can feel secure knowing that their data privacy will be protected. The data was computed by using the Statistical Package for Social Sciences (SPSS) 24.0.

Data analysis

The Pearson's product moment correlation coefficient (r), regression analysis and independent t-test was used to determine differences in Depression, Anxiety, and Stress among Asthma patients after a correlation was determined using SPSS version 24.0.

Ethical Consideration:

- After being fully informed about the study, participants provided written consent and were free to leave at any moment without incurring any fees.
- Information was made anonymous and safely stored to guarantee that no personally identifiable information was revealed in reports.
- To guarantee ethical standards, the project obtained IRB permission from concerned Hospital authority and adhered to APA rules.

Results and Discussion

The current study set out to investigate the effects of psychological distress such as depression, stress, and anxiety among asthma patients. A sample of 120 asthmatic patients (60 men and 60 women) was selected. Overall, data was gathered from various Faisalabad public and private hospitals. Participants' ages ranged from 25 to 55 years old. Participants' educational backgrounds were divided into two categories: less educated (middle to intermediate) and highly educated (bachelor to M. Phill). The Depression, Anxiety, and Stress Scale (DASS) was utilized to collect data, and the sample was selected using the Purposive Sampling technique. An independent t-test was used to determine differences in Depression, Anxiety, and Stress among asthma patients using the SSPS, multiple regression analysis was used to predict the effect of IV on DV, and the product moment correlation coefficient was used to calculate the correlation between the two variables.

Table 1
Socio-demographic Characteristics of particepants (N=120)

Characteristic	n	%	M	SD
Gender				
Female	60	50.00		
Male	60	50.00		
Age			41.15	7.70
25–40	53	44.16		
41–55	67	55.83		
Educational Level				
Less educated (Middle–Intermediate)	81	67.50		
Highly educated (Bachelor–M.Phil.)	39	32.57		
Socio-economic Status				
Lower	45	37.50		
Middle	75	62.50		
Upper	—	—		
Marital Status				
Unmarried	21	17.25		
Married	99	82.75		
Children				
Having kids	54	45.00		
Having no kids	45	37.75		

The table gives illustrations of percentage of socio-demographics such as gender, age, education level, socioeconomic status and marital status of the Asthma patients.

Table 2
Correlational analysis between Gender, Age groups, severity of the illness, depression, anxiety and stress

Variables	1	2	3	4	5	6
1 Gender a	-	0.00	0.65	.847**	.938**	.887**
2 Age b		-	0.347**	.421**	.245**	.287**
3. Severity c			-	.287**	.259**	.264**
4. Depression				-	.941**	.934**
5. Anxiety					-	.933**
6. Stress						-

Note, N=120 a Men =0, Women =1,b Early adulthood= 0, Late adulthood =1, c Acute=0. Severe=1 **p<.05. **p < .01.*

Table shows inter-correlations among study variables. The results show that all the demographics are significantly positively correlated with all dependent variables. Gender has a significant positive correlation with depression (r=.847,p<.01), Anxiety (r=.938,p<0.01) and stress (r=.887,p<0.01). Similarly, age has a significant positive correlation with depression (r=.421,p<.01), Anxiety (r=.245,p<0.01) and stress (r=.287,p<0.01). Severity of the illness is also significantly positively correlated with depression (r=.287,p<.01), Anxiety (r=.259,p<0.01) and stress (r=.264,p<0.01). Moreover, Depression, Anxiety, and Stress are also significantly positively correlated with each other.

Table 3
Results of Multiple Regression Analysis of gender, age group and severity of the illness predicting depression

		Depression	
Variables	**B**	**SE B**	**B**
Constant	15.787	.231	-
Gender			
- Women	6.895	0.242	0.838***
- Men	-	-	-
Age group			
- Adulthood	3.251	0.256	0.393***
- Early adulthood	-	-	-
Severity			
- Chronic	0.717	0.257	0.87**
- Acute	-	-	-
R2 = 0.901 ΔR^2 = 0.901			

Note. N= 120. The impact of Gender, Age group and Severity of the illness on depression was studied. **p* < .05. ***p* < .01. ***p<0.001

Multiple regression analysis showed that all three predictors significantly predict depression. In case of gender, women are a better predictor of depression compared to men. In the second category of age group, late adulthood is a better predictor of depression and in the third category, chronic severity of illness is a better predictor of depression in asthma patients.

Table 4
Results of Multiple Regression Analysis of gender, age group and severity of the illness predicting Anxiety

		Anxiety	
Variables	**B**	**SE B**	**B**
Constant	9.369	.175	-
Gender			
- Women	8.248	0.183	0.927***
- Men	-	-	-
Age group			

- Adulthood	1.857	0.193	0.208***
- Early adulthood	-	-	-
Severity			
- Chronic	1.020	0.193	0.114***
- Actue	-	-	-
R2 = 0.952			
ΔR^2 = 0.952			

Note. N= 120. The impact of Gender, Age group and Severity of the illness on Anxiety was studied. *p < .05. **p < .01. ***p<0.001

Multiple regression analysis showed that all three predictors significantly predict anxiety. In case of gender, women are good predictor of anxiety as compared to men. In the second category of age group, late adulthood is good predictor of anxiety as compared to early adulthood and in the third category, chronic severity of illness is a better predictor of anxiety compared with acute severity in asthma patients.

Table 5
Results of Multiple Regression Analysis of gender, age group and severity of the illness predicting stress

	Stress		
Variables	**B**	**SE B**	**B**
Constant	12.728	.286	-
Gender			
- Women	8.094	0.299	0.838***
- Men	-	-	-
Age group			
- Adulthood	2.321	0.317	0.393***
- Early adulthood	-	-	-
Severity			
- Chronic	1.057	0.318	0.114**
- Actue	-	-	-
R2 = 0.880			
ΔR^2 = 0.880			

Note. N= 120. The impact of Gender, Age group and Severity of the illness on stress was studied. *p < .05. **p < .01. ***p<0.001

Multiple regression analysis showed that all three predictors significantly predict stress. In case of gender, women are good predictor of stress as compared to men. In the second category of age group, late adulthood is good predictor of stress as compared to early adulthood and in the third category, chronic severity of illness is a good predictor of stress compared to acute illness in asthma patients.

Table 6
Gender differences on Depression, Anxiety and Stress scale among Asthma Patients

	Male		Female				
Variable	**M**	**SD**	**M**	**SD**	**t**	**p**	**Cohen's d**
Depression	20.93	2.65	24.90	1.65	-17.28	.000	1.85
Anxiety	15.90	1.79	19.25	1.27	-29.44	.000	2.30
Stress	19.53	2.13	22.73	2.17	-20.82	.000	1.41

Note. N= 120. The impact of Gender on Depression, Anxiety and stress was studied. ***p<0.001

The results indicated high Significance level at *(P<0.01) ** .* It shows that female asthma patients have higher level of Depression, Anxiety, and Stress as compared to male asthma patients.

Table 7
Age differences on Depression, Anxiety and Stress scale among Asthma Patients.

	Early Adulthood		Middle Adulthood					
Variables	**M**	**SD**	**M**	**SD**	**df**	**t**	**p**	**Cohen's d**
Depression	19.50	4.30	22.98	3.20	118	-5.04	.000	0.91
Anxiety	13.87	4.61	16.06	4.12	118	-2.73	.007	0.50
Stress	17.16	4.70	19.81	4.25	118	-3.25	.001	0.59

Note. N= 120. The impact of Age on Depression, Anxiety and stress was studied. *p < .05. **p < .01. ***p<0.001

The results indicated high Significance level at *p < .05. **p < .01. ***p<0.001. It shows that Middle Adulthood patients have higher level of Depression, Anxiety, and Stress as compared to Early Adulthood asthma patients.

Table 8
The impact of Severity of the illness on Depression, Anxiety and stress

	Acute		Chronic					
Variable	**M**	**SD**	**M**	**SD**	**df**	**t**	**p**	**Cohen's d**
Depression	20.03	4.20	22.53	3.75	117	-3.40	.000	0.62
Anxiety	13.71	4.43	16.18	4.22	117	-3.08	.003	0.50
Stress	17.18	4.54	19.81	4.45	117	-3.16	.001	0.58

Note. N= 120. The impact of Severity of the illness on Depression, Anxiety and stress was studied. *p < .05. **p < .01. ***p<0.001

The results indicated high Significance level at *$p < .05$. **$p < .01$. ***$p<0.001$* level. It shows that chronic asthma patients have higher level of Depression, Anxiety, and Stress as compared to acute asthma patients.

Discussion

The most common chronic respiratory disease, asthma, has been linked to psychological issues such as stress, anxiety, and depression in addition to having a major negative effect on a patient's physical health. The current study has shifted its focus to socio-demographic factors in relation to the severity of asthma patients' illnesses as a predictor of psychological discomfort. Understanding these factors is crucial for customizing interventions to patient care.

According to a study, there is a bidirectional association between psychological distress and asthma. This means that although psychological distress might make it harder to regulate asthma, asthma exacerbations can either cause or worsen psychological symptoms. The most common reason why people with chronic asthma experience psychological distress is exacerbation worry. Asthma attacks that come on abruptly might be so bad that they require hospitalization and endanger life. Anxiety and depression are made worse by the burden of managing a chronic illness, which also makes asthma symptoms worse and lowers quality of life (Sicouri, 2023).

The gender disparities play a significant role in the psychological distress. A study specifically discovered that women are more prone than men to have higher levels of anxiety and detress for psychological as well as biological reasons. This can be explained by the various perspectives that different genders have on diseases, coping mechanisms, the impact of hormones, and sociocultural factors (Rask-Andersen et al., 2022).

For example, a study by Hossain et al. (2021) discovered that exceptionally high anxiety levels in female asthma patients were associated with the impacts of sex hormones and cultural influences. Moreover, a more recent study Kharaba et al. (2022) predicted that

women with asthma are more prone to experience depression, especially during their reproductive years, due to the intricate relationship between asthma symptoms and hormonal changes.

Thus, studies demonstrating that the age of asthma patients has a major impact on their emotional discomfort provide credence to the notion. According to an illustrated study of Passos et al. (2023) older asthma patients may feel more psychologically uncomfortable overall than younger patients due to their increased likelihood of developing several concomitant chronic diseases. A recent study also discovered a link between older adults with asthma and a few chronic illnesses because of psychological pain. A different earlier study of MacNeil et al. (2023) also found that these older persons with asthma had a higher likelihood of anxiety and depression due to decreased health conditions and fears of exacerbation.

The current study's hypothesis, according to a thorough investigation, is that a major factor influencing psychological anguish is the chronicity of the disease. Patients with chronic asthma, in contrast to individuals with acute episodes, are more psychologically burdened due to their frequent exacerbations and lasting symptoms. While acute events may have short-term effects and not always influence psychological well-being over the long term, chronic illnesses typically cause sustained stress and a lower quality of life (Patella et al., 2022). Chronic asthma is associated with persistent psychological morbidity due to the long-term nature of the illness process and its impact on daily living.

According to a previous study asthma patients who has chronic disease are more likely to suffer from anxiety and depression as time goes on, particularly if they find it difficult to consistently control their symptoms. Another study of Guo et al. (2022) claims that because of the sudden onset and intensity of symptoms, most patients who experience acute asthma attacks usually report feeling acute anxiety and stress; however, once episode management was achieved, these distress levels usually dropped.

These socio-demographic factors should be considered in clinical assessments to advance our knowledge of the psychology of suffering in asthma patients and to inform any type of focused intervention. Therefore, more careful assessment of the observed variables would be necessary in comprehensive treatment strategies intended to control asthma symptoms and reduce associated psychological distress.

Conclusion

The results showed that stress, anxiety, and depression have positive relationships with each other among patients with asthma. Studies have demonstrated that socio-demographic characteristics are a strong predictor of psychological distress in people with asthma. Additionally, it has been found that there are substantial age and gender differences in the Depression, Anxiety, and Stress Scale ratings of asthma patients. Furthermore, studies have revealed that there are notable differences in the severity of stress, anxiety, and depression among asthma patients. The end findings showed that among female, older adult, and chronic patients, a higher level of stress, anxiety, and depression is a powerful predictor of psychological distress among asthma patients. To decrease stigma and burden of disease asthma Patients needs to be interconnected with general and mental health professionals.

Recommendations

Although the current study yielded many significant discoveries, there were a few flaws that were discovered during the inquiry that ought to be addressed for similar studies in the future. The sample should be duplicated with a bigger sample size to establish more reliable and relevant generalizations for the current study. It is suggested that the specific

asthma illness be selected for future research to get the most precise and comprehensive information. Future studies could use the caregivers of asthma patients as a research sample and consider psychological problems in them. Furthermore, the present investigation may be suggested for qualitative inductive research to carry out in-depth interviews with patients for psychological treatment.

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