

# The Influence of Depression on Different Age and Gender Groups in Bahawalpur

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**Abstract:** In Bahawalpur, a cross-sectional study assessed depression prevalence across age and gender groups, involving 442 participants from diverse socioeconomic backgrounds and settings. Utilizing the PHQ9 questionnaire, 84% were found to meet depression levels. The findings revealed a higher incidence in females (88%) than males (79%), with the greatest disparity among young adults, particularly young women, due to factors like academic pressure and financial stress. School children had the lowest depression rates (68%), possibly due to better immunity. Elderly individuals exhibited more severe depression, likely related to aging and domestic challenges. The study's findings highlight a significant variation in depression severity across different demographic groups, with an overall higher incidence in women. The research underscores the necessity for targeted mental health resources and interventions tailored to the specific needs of each demographic group. It also points to the importance of addressing academic and socioeconomic stressors to mitigate depression, particularly among young women. While the study provides valuable insights, it relies on self-reported data, which may introduce bias. Therefore, future research should include clinical assessments to validate these findings and ensure a more accurate representation of depression within the community.

**Keywords:** Influence; Depression; Different age; Gender groups; Bahawalpur

**Online publication:** August 9, 2024

## 1. Introduction

Social changes that could affect the mental health of the population of Bahawalpur, which has a rich cultural history. Aspects of life history and individual experience shape susceptibility and addiction to smoking and have implications for treatment outcomes. Yet for those looking for specialized mental health interventions, the first step is to figure out who is suffering from depression within a population and why, particularly in different ages and genders. In filling the gaps and shining a light on the distinct challenges experienced by different population sub-groups, this research hopes to improve community health for generations to come.

Depression, a type of mental illness that causes persistently melancholic feelings, is a prevalent mental health issue. In addition to physical and cognitive problems that significantly impair a person's capacity to

function, all depressive diseases are characterized by feelings of melancholy, emptiness, or irritability <sup>[1]</sup>.

Anxiety is a common symptom of depression <sup>[2]</sup>. According to the World Health Organization, in 2015, depression accounted for 7.5% of all years that people with disabilities lived worldwide. Anxiety comes in at number six (3.4%) <sup>[3]</sup>. Asthma, Parkinson's disease (PD), diabetes, and other illnesses are frequently co-occurring with both mental illnesses <sup>[2]</sup>. An estimated 300 million individuals worldwide, or 4.4% of the global population, are thought to suffer from serious depressive disorders <sup>[3]</sup>. In China, medical students had a mean prevalence of 32.74% for depression and 27.22% for anxiety. The meta-analysis revealed that the following factors were substantially linked to depression: gender, grade level, place of residence, contentment with one's current major, and monthly family income per capita <sup>[4]</sup>. Over 4% of Pakistan's total disease burden is accounted for by mental health disorders, and 24 million individuals there require psychiatric assistance. A study on schoolchildren in Northern Pakistan revealed that 17.2% of participants had depression; these findings were associated with low socioeconomic position and adversity in life <sup>[5]</sup>.

Traumatic childhood experiences, such as parental death, abuse, bullying, or homelessness, increase the risk of depression in school-age children. Teenage depression is most commonly associated with exposure to psychosocial stress and a family history of depression. Inherited risks, developmental variables, sex hormones, psychological stress, and hormonal factors all work together to increase risk through altered brain pathways <sup>[6]</sup>. The complex connections between genetic vulnerabilities, age-related neurobiological changes, stressful events, and cognitive diathesis are considered to be risk factors for depression in older persons that lead to the development of depression in late life which is frequently disregarded as insomnia. Regardless of which predisposing factors are most prevalent, the study proposes that restriction may be a common road to depression in older persons <sup>[7]</sup>.

In reviewing published articles on age-sex differences, it is clear that the prevalence of depression is higher in women. Depression is twice as common as in men, with questions being raised over possible misdiagnosis in the latter. According to the concept of male depression, males experience externalized forms of depression symptoms such as aggression and substance abuse. Moreover, women experienced internalized symptoms. (Women also face depression in some part of their lifespan, peaking during childbearing years, reproductive-specific disorders, Postpartum mood disorder (PMD), and Perimenopausal depressive disorder (PDD). Women typically exhibit lower tolerability and less responsiveness to tricyclic antidepressants (TCAs), whereas they tend to respond more positively to selective serotonin reuptake inhibitors (SSRIs). On the other hand, men demonstrate similar responses to both TCAs and SSRIs. These findings underscore the importance of adopting a gender-specific approach in evaluating and managing depression <sup>[8]</sup>.

## 2. Methodology

The research was carried out at the outpatient division of Sir Sadiq Abbasi (Civil) Hospital in Bahawalpur, Department of Pharmacy Bahawalpur Medical and Dental College, Government Boys High School Sama Satta, at some rural areas and with a small number of participants recruited from private clinical setting. For this cross-sectional descriptive study, data from 442 participants with depression were included. Participants from low socioeconomic classes aged 5–70 were included in this study. Some participants from higher social levels, like teachers and students, were also included. These participants include males and females, school-age children (5–15 years old), teenagers or young college students (16–25 years old), teachers or young adults (26–35 years old), people in their late life or old age (36–70 years old) and others. Software named “Raosoft sample size calculator” was used for sample size calculation <sup>[9]</sup>.

## 2.1. Study tools

The PHQ-9 standardized questionnaire was employed as a data collection tool for the study. The questionnaire was divided into two sections: The first section gathered personal information about the participants, such as their age, gender, and other demographic characteristics. The second section comprised nine questions aimed at investigating the occurrence of depression among various age groups and genders to identify potential patterns and trends.

## 2.2. Scoring criteria

The evaluation criteria were adapted from a previous study in Pakistan. Ascertain demographic details of 442 subjects: Gender: Female = 2; Age grouped as School age students (0–15) years old, adolescent or students (16–25) years old, young adult (workforce, early career) group (26–35) years old and middle to late life (36–70) years old. A total of 9 questions assessed knowledge, with scores ranging from 0–5 indicating no depression, 5–10 showing mild depression, 10–15 suggesting moderate depression, 15–20 indicating moderate-severe depression, and scores more than 20 expressing severe depression.

## 3. Results

Overall, depression prevalence among the 442 participants was 370 (84%), with 72 (16%) showing no depression, as shown in **Table 1**. Similarly, **Figure 1** illustrates that 84% met the depression criteria, while 16% did not. In terms of overall depression severity, 74 (17%) had minimal or no depression, 174 (39%) had mild depression, 83 (19%) had moderate depression, 74 (17%) had moderately severe depression, and 37 (8%) had severe depression, as shown in **Table 2**. **Figure 2** confirms these values: 17% had minimal or no depression, 39% had mild depression, 19% had moderate depression, 17% had moderately severe depression, and 8% had severe depression.

For the 230 males, depression prevalence was 183 (80%) with depression and 47 (20%) with no depression, as shown in **Table 3** and **Figure 3**. In terms of severity, 47 (21%) had minimal or no depression, 85 (37%) had mild depression, 32 (14%) had moderate depression, 42 (18%) had moderately severe depression, and 24 (10%) had severe depression, as presented in **Table 4** and **Figure 4**. Among the 212 females, 186 (88%) had depression, and 26 (12%) did not, as shown in **Table 5** and **Figure 5**. For severity, 27 (13%) had minimal or no depression, 89 (42%) had mild depression, 51 (24%) had moderate depression, 32 (15%) had moderately severe depression, and 13 (6%) had severe depression, as shown in **Table 6** and **Figure 6**.

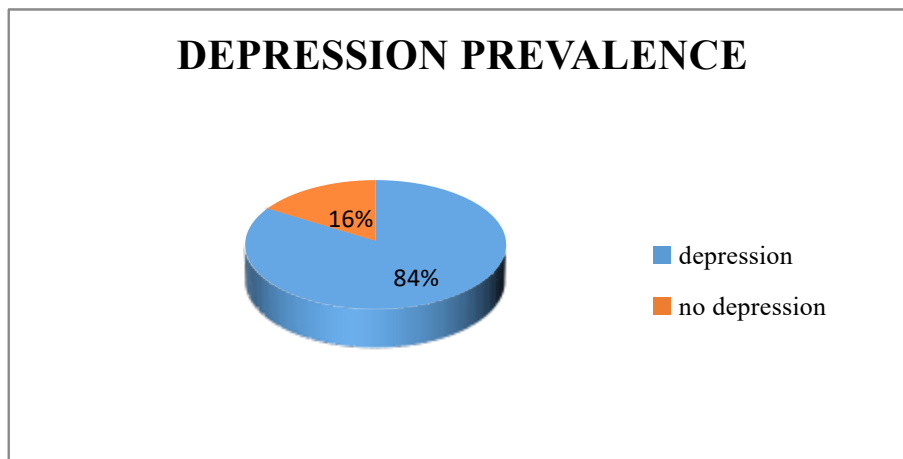
In the school-age group, 50 (68%) out of 74 participants had depression, while 24 (32%) did not, as shown in **Table 7** and **Figure 7**. Severity results indicate that 24 (32%) had minimal or no depression, 47 (64%) had mild depression, 3 (4%) had moderate depression, and none had moderately severe or severe depression, as shown in **Table 8** and **Figure 8**. Among the 286 adolescents or college students, 248 (87%) showed depression, and 38 (13%) did not, as shown in **Table 9** and **Figure 9**. Severity findings show that 38 (13%) had minimal or no depression, 104 (36%) had mild depression, 64 (23%) had moderate depression, 54 (19%) had moderately severe depression, and 26 (9%) had severe depression, as shown in **Table 10** and **Figure 10**.

In young adults, 46 (82%) out of 56 showed symptoms of depression, and 10 (18%) did not, as shown in **Table 11** and **Figure 11**. Severity results indicate that 10 (18%) had minimal or no depression, 16 (29%) had mild depression, 10 (18%) had moderate depression, 13 (23%) had moderately severe depression, and 7 (12%) had severe depression, as shown in **Table 12** and **Figure 12**. In the old age or late-life group, 24 (92%) out of 26 met the depression criteria, while 2 (8%) had minimal or no depression, as shown in **Table 13** and **Figure**

13. Severity findings show that 2 (8%) had minimal or no depression, 7 (27%) had mild depression, 6 (23%) had moderate depression, 7 (27%) had moderately severe depression, and 4 (15%) had severe depression, as shown in Table 14 and Figure 14.

**Table 1.** Overall depression prevalence

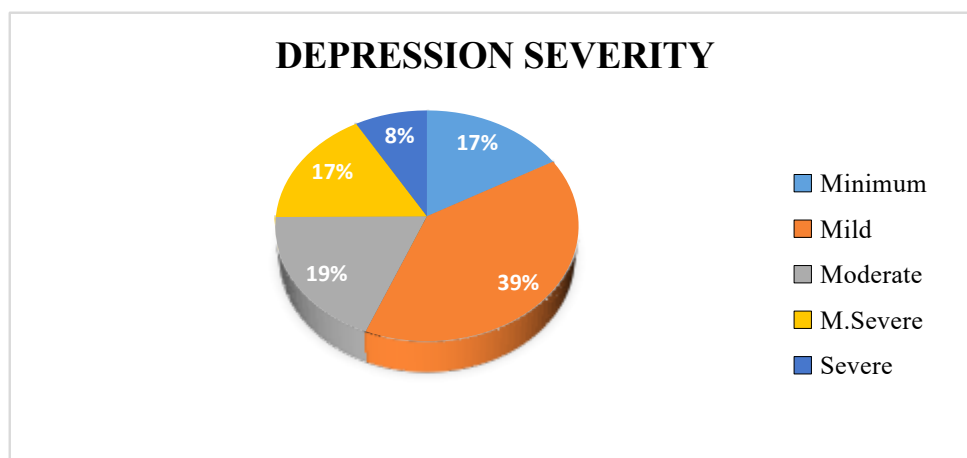
Total Participants	Depression	Percentage	No Depression	Percentage
442	370	84%	72	16%



**Figure 1.** Overall depression prevalence.

**Table 2.** Overall depression severity

Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	74	442	17%
Mild depression	5–9	174	442	39%
Moderate depression	10–14	83	442	19%
Moderately severe depression	15–19	74	442	17%
Severe depression	20–27	37	442	8%

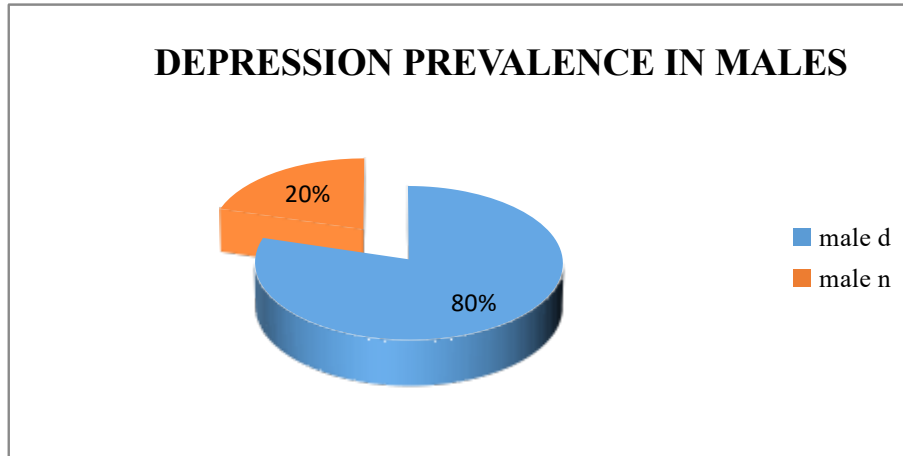


**Figure 2.** Overall depression severity.

### 3.1. Gender factor

**Table 3.** Depression prevalence in males

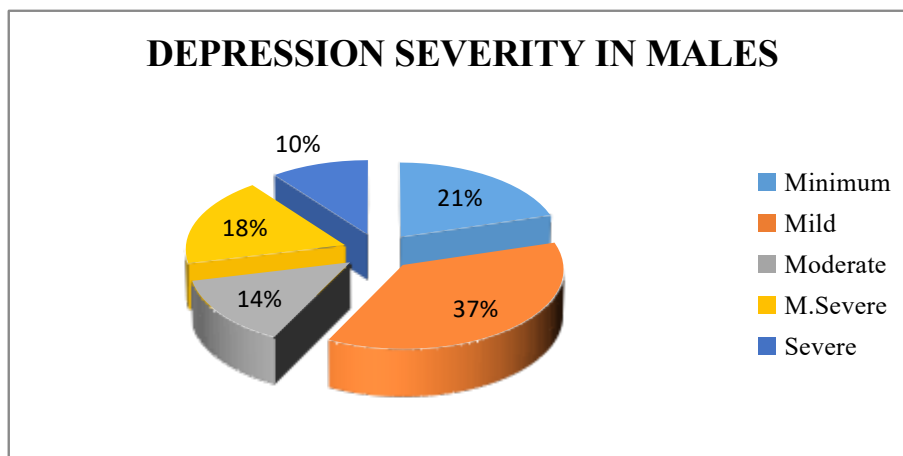
Total Participants	Depression	Percentage	No Depression	Percentage
230	183	80%	47	20%



**Figure 3.** Depression prevalence in males. Male d = depression in males, male n = no depression in males.

**Table 4.** Depression severity in males

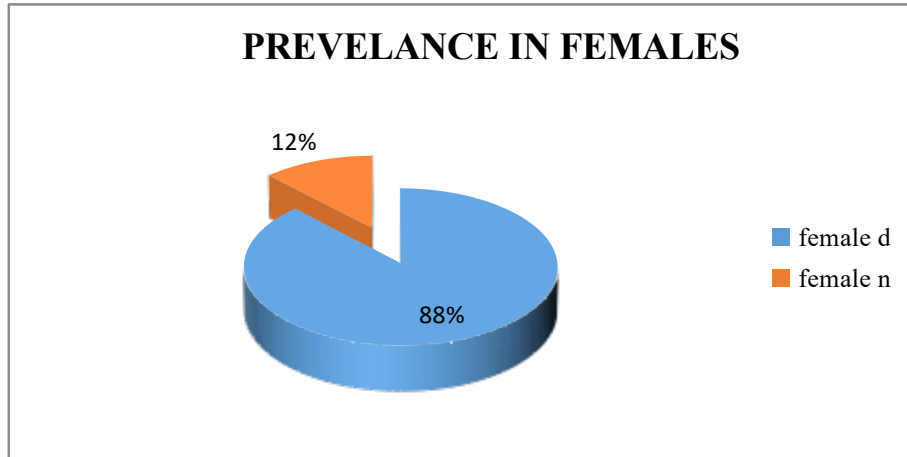
Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	47	230	21%
Mild depression	5–9	85	230	37%
Moderate depression	10–14	32	230	14%
Moderately severe depression	15–19	42	230	18%
Severe depression	20–27	24	230	10%



**Figure 4.** Depression severity in males.

**Table 5.** Depression prevalence in females

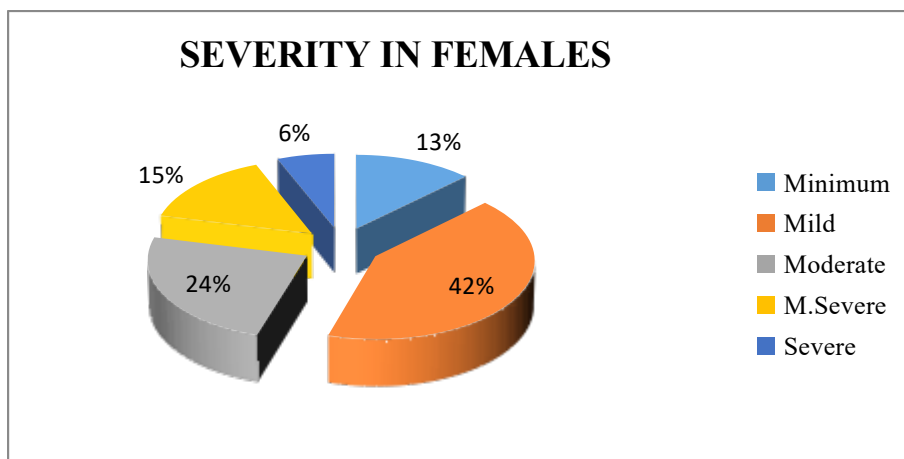
Total Participants	Depression	Percentage	No Depression	Percentage
212	186	88%	26	12%



**Figure 5.** Depression prevalence in females. Female d = depression in females, female n = no depression in females.

**Table 6.** Depression severity in females

Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	27	212	13%
Mild depression	5–9	89	212	42%
Moderate depression	10–14	51	212	24%
Moderately severe depression	15–19	32	212	15%
Severe depression	20–27	13	212	6%

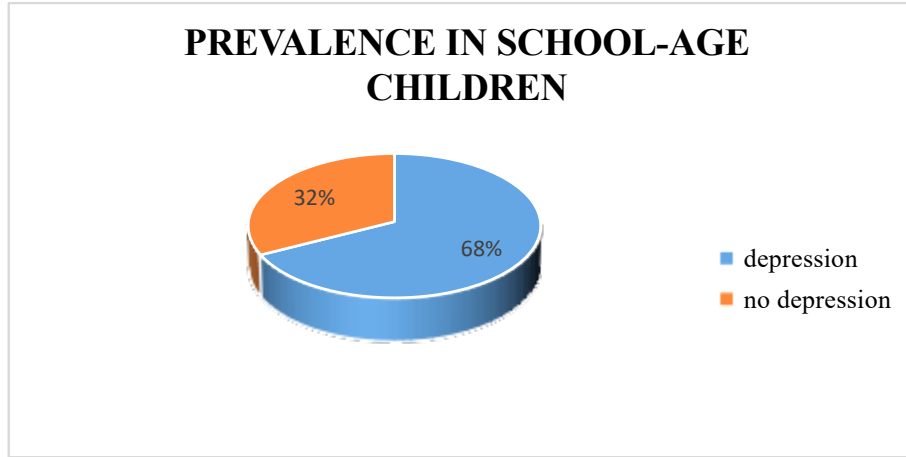


**Figure 6.** Depression severity in females.

### 3.2. Age factor

**Table 7.** Depression prevalence in school-age children

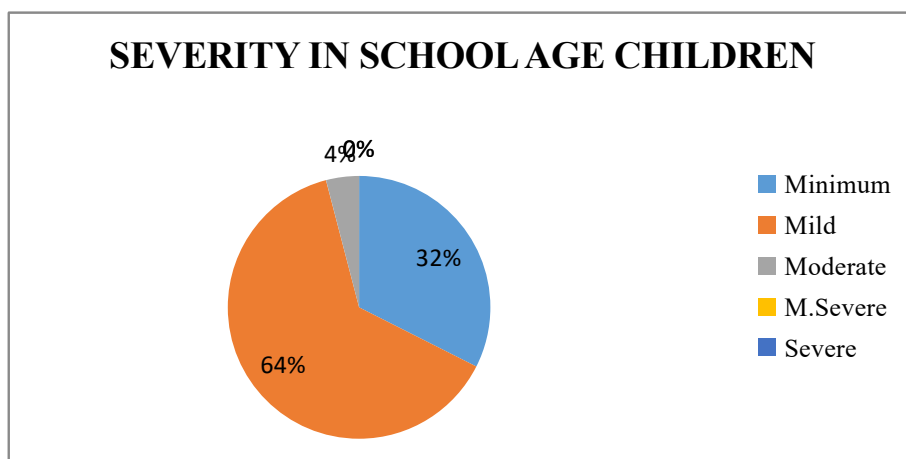
Total Participants	Depression	Percentage	No Depression	Percentage
74	50	68%	24	32%



**Figure 7.** Depression prevalence in school-age children.

**Table 8.** Depression severity in school-age children

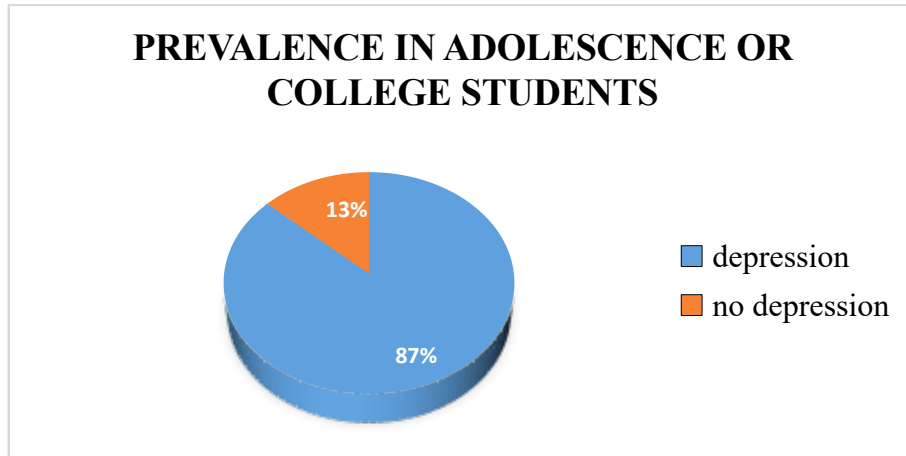
Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	24	74	32%
Mild depression	5–9	47	74	64%
Moderate depression	10–14	03	74	4%
Moderately severe depression	15–19	0	74	0%
Severe depression	20–27	0	74	0%



**Figure 8.** Depression severity in school-age children.

**Table 9.** Depression Prevalence in adolescents or college students

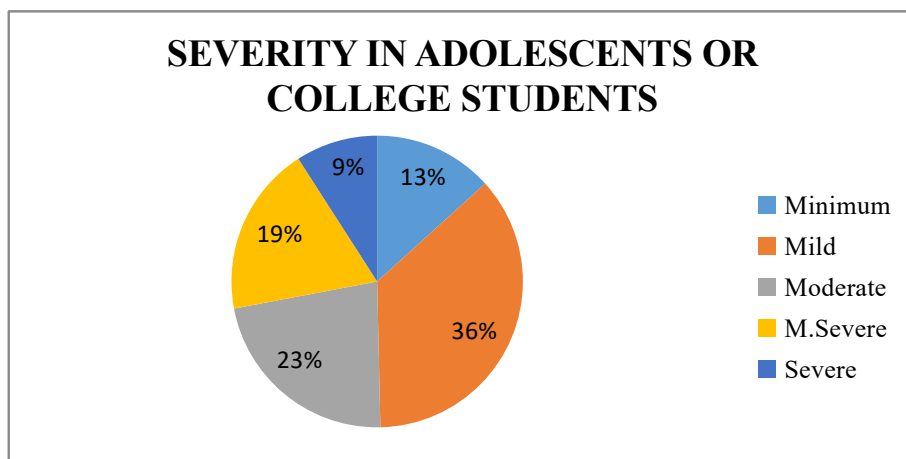
Total Participants	Depression	Percentage	No Depression	Percentage
286	248	87%	38	13%



**Figure 9.** Depression prevalence in adolescents or college students.

**Table 10.** Depression severity in adolescents or college students.

Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	38	286	13%
Mild depression	5–9	104	286	36%
Moderate depression	10–14	64	286	23%
Moderately severe depression	15–19	54	286	19%
Severe depression	20–27	26	286	9%

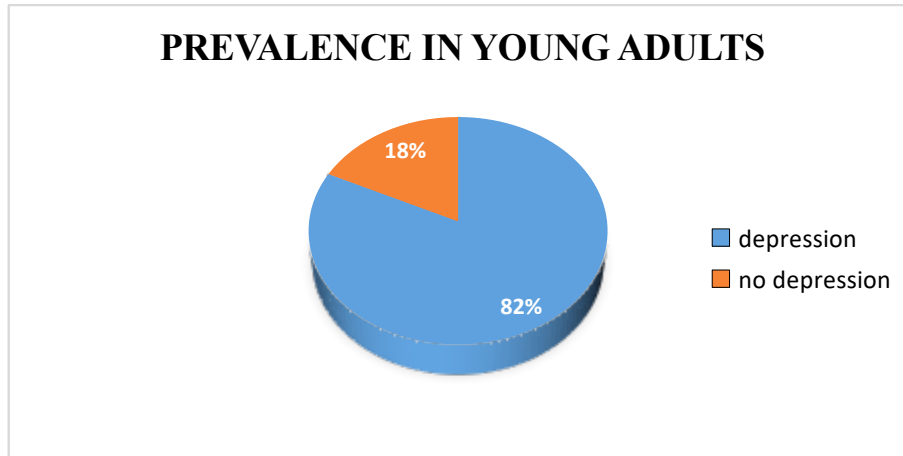


**Figure 10.** Depression severity in adolescents or college students.

**Table 11.** Depression prevalence in young adults

Total Participants	Depression	Percentage	No depression	Percentage
56	46	82%	10	18%

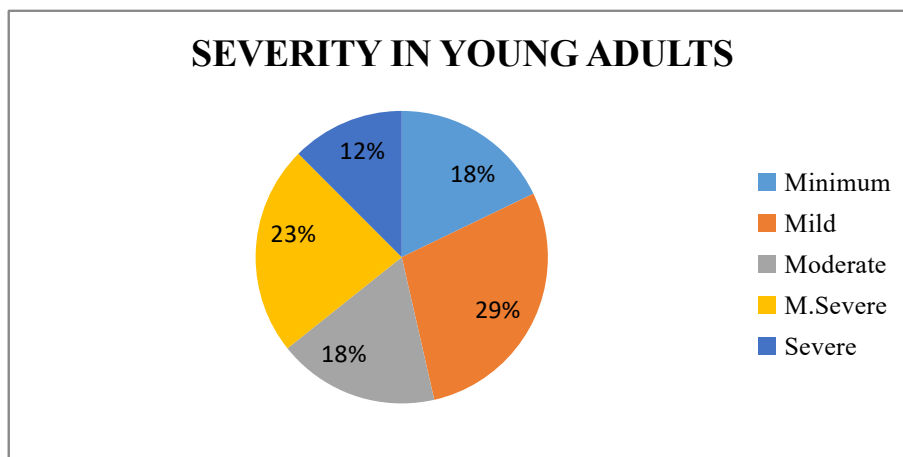




**Figure 11.** Depression prevalence in young adults.

**Table 12.** Depression severity in young adults

Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	10	56	18%
Mild depression	5–9	16	56	29%
Moderate depression	10–14	10	56	18%
Moderately severe depression	15–19	13	56	23%
Severe depression	20–27	7	56	12%



**Figure 12.** Depression severity in young adults.

**Table 13.** Depression prevalence in old age or late-life adults

Total Participants	Depression	Percentage	No Depression	Percentage
26	24	92%	2	8%

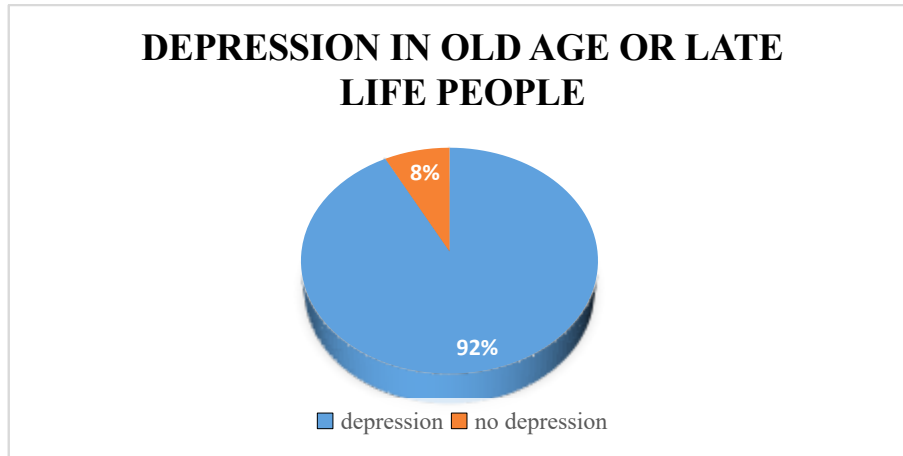


Figure 13. Depression prevalence in old age or late life adults.

Table 14. Depression severity in old age or late-life adults

Severity	Range or scoring criteria	Number of Participants	Total number of Participants	Percentage
Minimum or no depression	0–4	2	26	8%
Mild depression	5–9	7	26	27%
Moderate depression	10–14	6	26	23%
Moderately severe depression	15–19	7	26	27%
Severe depression	20–27	4	26	15%

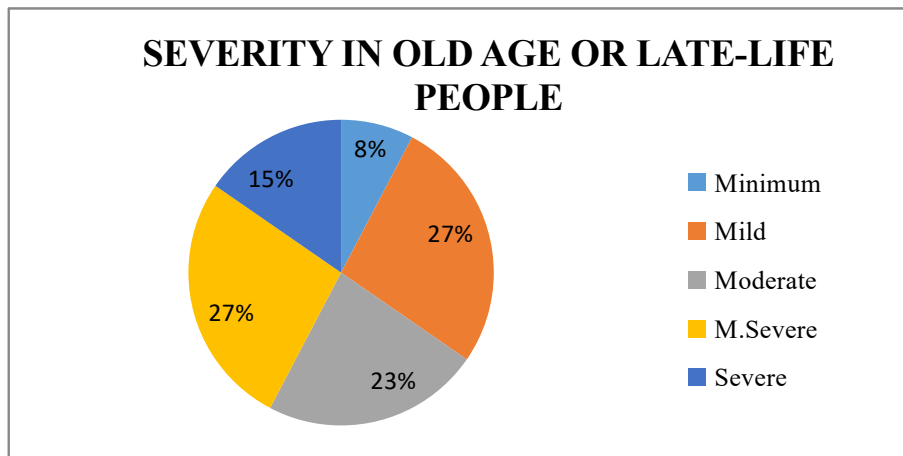


Figure 14. Depression severity in old age or late life adults.

#### 4. Discussion

Anxiety and depression are significant public health issues, ranking fourth among the global burden of disease. These conditions are important mental health indicators in males and females across different age groups<sup>[10]</sup>. In Eastern Europe, being married has a bigger effect on women’s likelihood of feeling depressed as compared to males. Divorced or widowed women, as well as those with limited family-based social support, were more likely to report depression<sup>[11]</sup>. Across the US, prevalence studies show that one in five women will experience an episode of major depressive disorder (MDD) during their lifetime. Childbearing women also

faced depression at various phases of their lives. The emergence of symptoms indicative of depression typically occurs within the age bracket of 20 to 40 years, a period commonly associated with the onset of pregnancy in women <sup>[12]</sup>.

The prevalence and manifestation of depression varied significantly across age groups. Anxiety and depression, termed internalizing symptoms, are prevalent mental health issues observed in children. Such symptoms in youth are associated with a more detrimental academic performance, incomplete schooling, and future mental health outcomes with public health implications and societal costs <sup>[13]</sup>.

Younger individuals, particularly adolescents and adults, tend to have higher rates of depression due to a combination of biological and social factors. Depression has a devastating impact on young people globally, causing long-lasting effects as they transition into adulthood <sup>[14]</sup>. Smartphone addiction can also be the reason for depression and anxiety in these individuals. Younger individuals are also more likely to experience mood swings and behavioral issues <sup>[15]</sup>.

In older parents, late-life internal migration is often associated with a higher risk of depression. Mental health disorders frequently persist into adulthood if left untreated, highlighting the critical importance of early detection. Education plays a crucial role in recognizing and addressing depression. Increased education levels, counseling, and awareness campaigns can lead to better awareness of mental health issues <sup>[16]</sup>. Research was conducted in Bahawalpur to examine the impact of depression on different age and gender groups. The findings revealed significant differences in how depression manifests and affects various demographics, reflecting both global trends and local specificities. Understanding this variation is crucial for developing targeted mental health interventions. The study found that women in Bahawalpur exhibit higher rates of depression compared to men, likely due to hormonal influence, psychosocial factors, and cultural and societal pressure. It also shows that depression is second highest in college students and young adults after the late-life people in Bahawalpur.

## 5. Conclusion

This study aimed to explore the impact of depression on different age groups and gender in Bahawalpur. Our findings indicate that depression affects both men and women of different age groups with significant variation in severity. Overall, there is a higher prevalence of depression among women than men. Young women showed more depression than men of young age due to their academic burden, low income, stress during exams, and many other causes. In later life, people showed severe depression because of their aging and domestic problems. And school children show fewer symptoms of depression because they have a strong immune system. However, the study's reliance on self-reported data may have introduced bias, and future research should incorporate clinical assessment to validate these results.

## References

- [1] Chand SP, Arif H, Kutlenios RM, 2024, Depression. StatPearls Publishing LLC, Treasure Island.
- [2] Ausderau KK, Colman RJ, Kabakov S, et al., 2022, Evaluating Depression- and Anxiety-Like Behaviors in Non-Human Primates. *Frontiers in Behavioral Neuroscience*, 2022(16): 1006065.
- [3] Chodavadia P, Teo I, Poremski D, et al., 2023, Prevalence and Economic Burden of Depression and Anxiety Symptoms Among Singaporean Adults: Results from a 2022 Web Panel. *BMC Psychiatry*, 23(1): 104.
- [4] Mao Y, Zhang N, Liu J, et al., 2019, A Systematic Review of Depression and Anxiety in Medical Students in China. *BMC Medical Education*, 19(1): 327.
- [5] Mian ZK, Khawaja RR, Zahra A, et al., 2022, Impact of Depression on the Integrative Complexity of Teenagers in

Pakistan. *International Journal of Social Sciences and Management Review*, 6(1).

- [6] Thapar A, Collishaw S, Pine DS, et al., 2012, Depression in Adolescence. *Lancet*, 379(9820): 1056–1067.
- [7] Fiske A, Wetherell JL, Gatz M, 2009, Depression in Older Adults. *Annual Review of Clinical Psychology*, 5: 363–389.
- [8] Sagud M, Peles AM, Hotujac LJ et al., 2002, Gender Differences in Depression. *Collegium Antropologicum*, 26(1): 149–157.
- [9] Khan M., Iqbal S, Junaid R, et al., 2024, Evaluation of Knowledge and Assessment of Polycystic Ovarian Syndrome (PCOS) Among Healthcare Providers in Medical Institutes of Bahawalpur. *Advances in Obstetrics and Gynecology Research*, 2(3): 53–59.
- [10] Iqbal T, Bhatti A, Waseem HM, et al., 2012, Frequency of Depression Among Students at Quaid-e-Azam Medical College Bahawalpur. *Journal of Sheikh Zayed Medical College*, 3(2): 297–300.
- [11] Ferlander S, Stickley A, Kislitsyna O, et al., 2016, Social Capital: A Mixed Blessing for Women? A Cross-Sectional Study of Different Forms of Social Relations and Self-Rated Depression in Moscow. *BMC Psychology*, 4(1): 37.
- [12] Marcus SM, Heringhausen JE, 2009, Depression in Childbearing Women: When Depression Complicates Pregnancy. *Primary Care*, 36(1): 151–165, ix.
- [13] Pedersen ML, Holen S, Lydersen S, et al., 2019, School Functioning and Internalizing Problems in Young Schoolchildren. *BMC Psychology*, 7(1): 88.
- [14] Beames JR, Kikas K, Werner-Seidler A, 2021, Prevention and Early Intervention of Depression in Young People: An Integrated Narrative Review of Affective Awareness and Ecological Momentary Assessment. *BMC Psychology*, 9(1): 113.
- [15] AlQaderi N, Elamin ABA, Adelmonem KYA, et al., 2023, Phone Addiction, Cyberbullying, and Mental Health Amongst Young Adults in the United Arab Emirates: A Cross-Sectional Study. *BMC Psychology*, 11(1): 313.
- [16] Deng R, Yan S, Zhang L, et al., 2024, How is Intergenerational Emotional Cohesion Linked to Depression Among Older Internal Migrants in China: The Mediating Roles of Loneliness and Perceived Stress. *BMC Psychology*, 12(1): 92.

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