Regional Variations in Depression Prevalence: A Comprehensive Correlational Analysis

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Abstract. Depression, an increasingly prevalent mental disorder, has garnered substantial global attention due to its rising incidence rates. This study seeks to elucidate the correlation between depression and regional disparities by conducting a detailed analysis of depression prevalence across different age groups and genders within five Socio-Demographic Index (SDI) regions. By employing sophisticated data analysis techniques, this research investigates the complex interplay of socioeconomic development levels, environmental quality, and historical political factors influencing regional depression rates. The findings reveal significant variations in depression prevalence, suggesting that these disparities are closely linked with the region-specific socioeconomic and environmental contexts. This comprehensive study not only advances our understanding of the geographic distribution of depression but also provides a robust theoretical framework and practical insights for targeted prevention strategies and treatment interventions aimed at mitigating this global mental health challenge. This enhances the potential for policymakers and healthcare providers to tailor their approaches according to specific regional needs and conditions, thereby improving the effectiveness of depression management programs and contributing to better mental health outcomes globally.

Keywords: Depression, Prevalence, Socioeconomic factors, Cultural factors.

1. Introduction

Research Background: Depression is a prevalent psychological disorder characterized by persistent low mood, diminished interest, and a notable decrease in pleasure. Clinically, individuals afflicted with depression may exhibit a spectrum of symptoms ranging from mild despondency to severe manifestations such as suicidal tendencies, anxiety, agitation, and in extreme cases, psychotic symptoms like hallucinations and delusions [1]. Despite extensive studies, the pathogenesis of depression remains partially understood, implicating a complex interplay of genetic, neurobiological, and psychosocial factors. Genetic predispositions have been observed, with studies indicating a higher incidence of depression in individuals with familial history of the disorder [2]. Neurobiologically, imbalances in neurotransmitters, neuroendocrine disruptions, and alterations in neuroplasticity contribute to its onset. Psychosocial triggers such as stressful life events and strained interpersonal relationships further complicate its landscape [3].

Significance of the Study: Understanding the multifaceted etiology of depression is crucial for the development of effective interventions. Current research does not fully encapsulate the intricate mechanisms underlying depression, leaving significant gaps in our knowledge, especially in how various factors converge to influence its prevalence. This study aims to bridge these gaps by exploring the correlation between the prevalence of depression and a variety of genetic, neurobiological, and psychosocial factors. By dissecting these relationships, the research seeks to offer deeper insights into targeted prevention strategies and more personalized therapeutic approaches.

Objectives of This Paper: This paper will analyze the prevalence of depression across diverse demographics and regions, examining how different factors contribute to its variation. Employing robust data analysis methods, the study will focus on the impact of socio-demographic indices, environmental quality, and historical and political backgrounds on depression rates. The objective is to delineate the regional disparities and pinpoint the predominant factors influencing these variations. This comprehensive analysis is expected to provide a theoretical basis and practical reference for both

the prevention and treatment of depression, thereby contributing to the global effort in managing this challenging mental health condition.

2. Preliminary Analysis of the Correlation Between Depression and Various Factors

2.1. Preliminary Analysis of the Percentage of Depression Prevalence in Different SDI Regions

The Social Development Index (SDI) is a composite measure that evaluates the developmental status of a country or region. It integrates data such as the total fertility rate for women under the age of 25, the average educational attainment of women aged 15 and older, and per capita income [4]. For analytical purposes, the world is categorized into five major SDI regions: High SDI, High-middle SDI, Middle SDI, Low-middle SDI, and Low SDI [5]. The following chart is generated based on data from the Global Burden of Disease (GBD) Study.

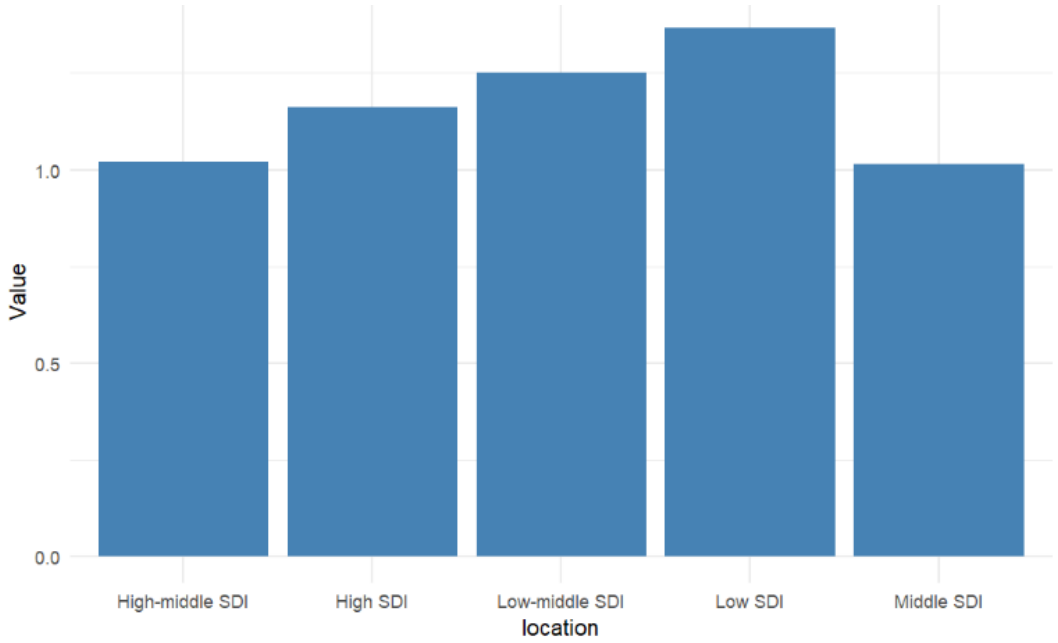

Figure 1. Comparison of Different Sociodemographic Index (SDI) Regions (Photo credit: Original)

In Fig 1, the "Value" represents the percentage of depression prevalence. According to the chart, it can be observed that the prevalence of depression is highest in regions with Low SDI, whereas it is lowest in regions with Middle SDI. The order of prevalence from highest to lowest across the five SDI regions is as follows: Low SDI > Low-middle SDI > High SDI > High-middle SDI > Middle SDI. However, it is important to acknowledge that in Low SDI and Low-middle SDI regions, the level of depression detection and the availability of medical facilities capable of diagnosing depression are generally lower compared to High SDI and High-middle SDI regions, which may influence the data collected [6, 7].

2.2. Preliminary Analysis of the Percentage of Depression Prevalence Across Different Age Groups

Firstly, we divide people into 11 different age groups based on their ages: Where: 0-14 years old is the first age group; 15-19 years old is the second age group; 20-24 years old is the third age group; 25-29 years old is the fourth age group; 30-34 years old is the fifth age group; 35-39 years old is the sixth age group; 40-44 years old is the seventh age group; 45-49 years old is the eighth age group; 50-74 years old is the ninth age group; 75-84 years old is the tenth age group; 85-89 years old is the eleventh age group [8]. Based on the data from the GBD Result, it can create the following chart. In which, "Value" in the chart represents the percentage of depression prevalence. As show in the Fig 2.

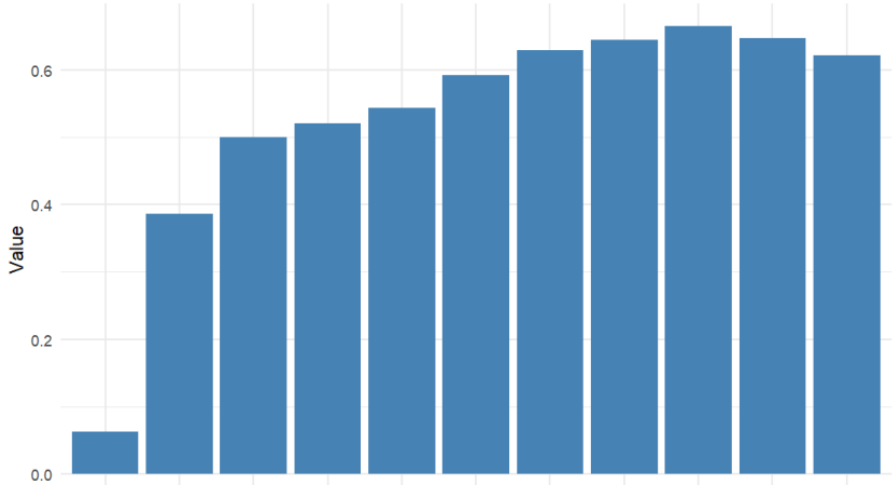

Figure 2. Age Distribution of Values Across Different Age Groups (Photo credit: Original)

Based on the data from the chart, it can be concluded that the percentage of depression prevalence is not high in the age range of 0 to 14 years old. However, when it comes to the age range of 15 to 19 years old, a significant increase in the percentage of prevalence can be observed [9]. The age range of 15 to 19 years old is when adolescence occurs. Therefore, we might boldly assume that cognitive growth and increased stress during adolescence are one of the reasons for the increase in the percentage of depression prevalence. According to the chart, it can also be seen that after the age of 19, the percentage of depression prevalence continues to increase until the 50-74 age range. After passing the 50-74 age range, it can be observed that the percentage of depression prevalence shows a certain degree of decline, which may be related to the reduction of stress and changes in lifestyle after reaching retirement age [10]. Of course, when analyzing this chart, it is also necessary to consider that the probability of detecting depression in the elderly is less than that in young and middle-aged people, and one should not jump to conclusions too hastily.

2.3. Preliminary Analysis of the Percentage of Depression Prevalence Rates By Gender

Based on the data from the GBD Result, it can create the following chart. In which, "Value" in the chart represents the percentage of depression prevalence. According to the chart, it can be concluded that globally, the percentage of depression prevalence of women is higher than that of men. As show in the Fig 3.

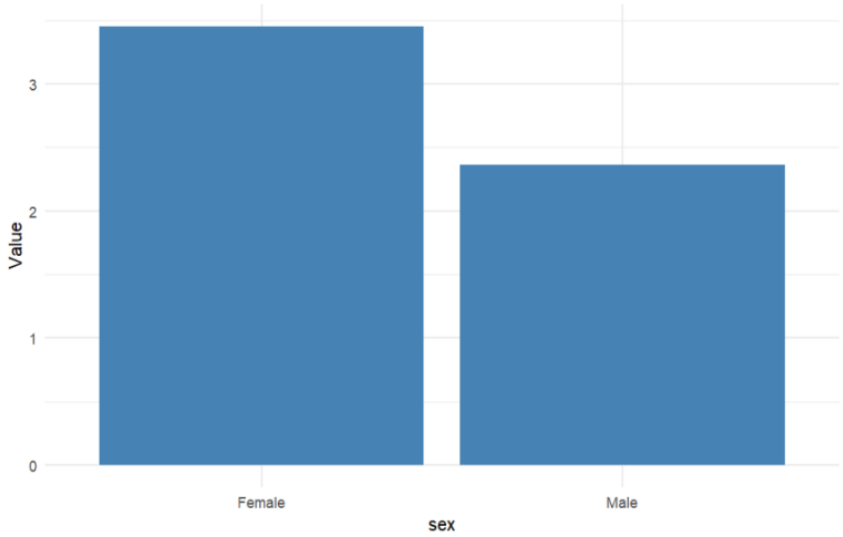

Figure 3. Comparison of Values by Gender (Photo credit: Original)

3. Further Analysis of the Correlation Between Depression and Various Factors

3.1. Preliminary Analysis of the Prevalence Percentage of Depression in Different Age Groups in Five SDI Regions

Based on the data from the GBD Result, it can create the following chart.

In which, "Value" in the chart represents the percentage of depression prevalence. As show in the Fig 4.

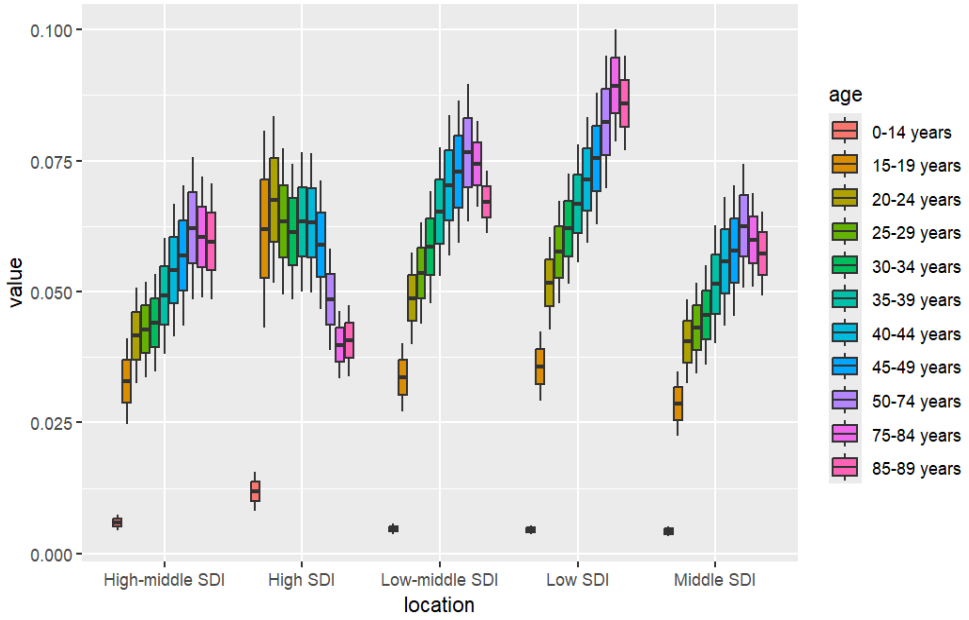

Figure 4. Age and SDI-Based Distribution of Depression Prevalence (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: In High SDI areas, the percentage of depression prevalence among those aged 0-14 and 15-19 is higher than in other areas, which may be related to the proactive depression screening for children and adolescents conducted by schools or community institutions in High SDI areas. Comparing the trends of depression prevalence percentages across five regions as they change with age, it can be observed that the trend in depression prevalence percentages in High SDI regions is significantly different from the trends in the other four regions, whereas the trends in depression percentages with age in the other four regions are basically the same. High SDI regions have a significantly higher percentage of depression prevalence among individuals aged 0-14 and 15-19 compared to the other four regions. The percentage of depression prevalence reaches its peak at ages 20-24, followed by an overall downward trend. In the age groups of 50-74 and above 74 years, the percentage of depression prevalence is significantly lower than in the other four regions. In the four regions other than High SDI, the trend of depression percentage with age is basically the same. Before the age of 50, the percentage of depression prevalence shows an overall upward trend. In the age groups of 50 to 74 and after 74 years old, the percentage of depression prevalence begins to show a slight downward trend, although the decrease is not significant. In the High SDI region, the percentage of depression prevalence after the age of 50 is significantly lower than in the other four regions, which may be related to the appropriate elderly care environment and generous pension policies in the High SDI region.

3.2. Preliminary Analysis of Depression Prevalence Rates by Percentage Across Different Age Groups and Genders

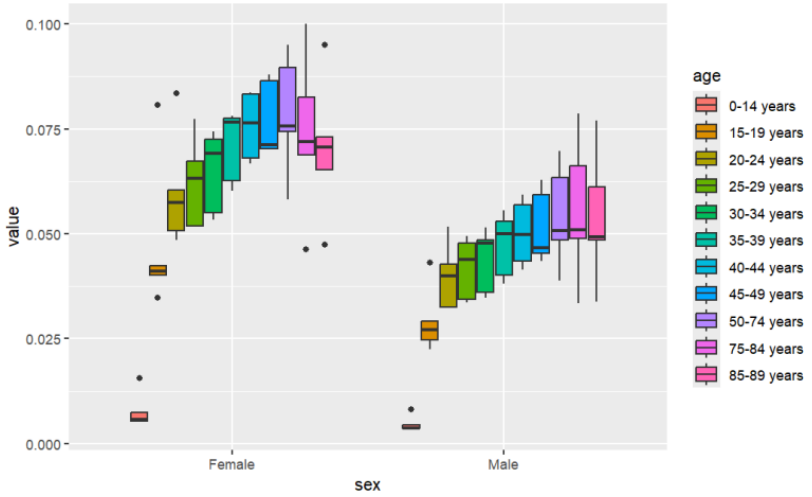

Figure 5. Gender-Specific Age Distribution of Depression Prevalence (Photo credit: Original)

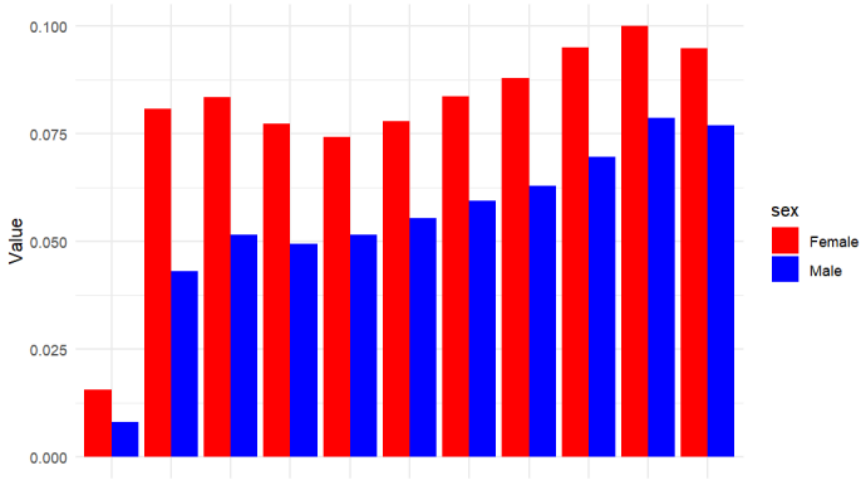

Figure 6. Comparative Analysis of Depression Prevalence by Age and Gender (Photo credit: Original)

Based on the data from the GBD Result, it can create the above two charts. As show in the Fig 5, Fig 6. In which, "Value" in the chart represents the percentage of depression prevalence. Based on the chart, the following conclusions can be drawn: The percentage of depression prevalence in both males and females are lower in the age range of 0 to 14 years. In other age groups above 14, the percentage of women with depression is significantly higher than that of men. The trend in the percentage of depression prevalence between males and females is basically the same as it changes with age. Before the age of 24, the percentage of depression prevalence gradually increases. Between the ages of 25 to 34, there is a slight decrease in the percentage of depression prevalence. From the age of 34 to 75, the percentage of depression prevalence shows an upward trend again. After the age range of 75 to 84, the percentage of depression prevalence begins to decrease once more.

3.3. Preliminary Analysis of Depression Prevalence Rates by Percentage Between Different Genders in Five SDI Regions

Based on the data from the GBD Result, it can create the following chart.
In which, "Value" in the chart represents the percentage of depression prevalence.

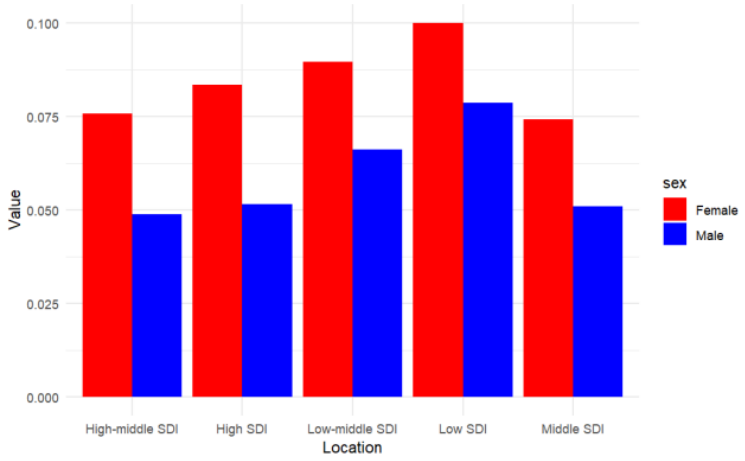

Figure 7. Depression Prevalence Across SDI Regions by Gender (Photo credit: Original)

Based on the chart, the following conclusions can be drawn. As show in the Fig 7.

In five different SDI regions, the percentage of women with depression is higher than that of men.

As can be seen in the graph, the percentage difference in depression rates between men and women in Low SDI regions is the smallest, while in High SDI regions, the difference is the largest. At the same time, we can see that the higher the SDI index, the greater the difference in the percentage of depression prevalence between men and women. In other words, the difference in the percentage of depression prevalence between men and women, from largest to smallest, is arranged as follows: High SDI regions > High-middle SDI regions > Middle SDI regions > Low-middle SDI regions > Low SDI regions.

The percentage of depression prevalence between males and females varies consistently across different regions. That is, the percentage of female depression prevalence from highest to lowest is ranked as follows: Low SDI regions > Low-middle SDI regions > High SDI regions > High-middle SDI regions > Middle SDI regions; whereas the order of the percentage of male depression prevalence is the same as that of females, which is: Low SDI regions > Low-middle SDI regions > High SDI regions > High-middle SDI regions > Middle SDI regions.

4. Specific Analysis of the Correlation Between Depression and Different Regions

4.1. Preliminary Analysis of Depression Prevalence Rates by Percentage by Gender and Age Groups in High SDI Areas

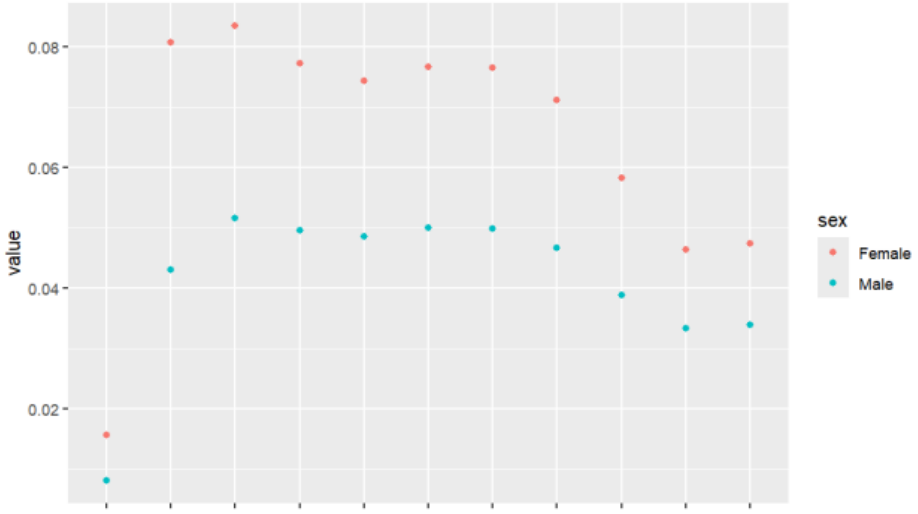

Figure 8. Point Distribution of Depression Prevalence by Age and Gender (Photo credit: Original)

In which, "Value" in the chart represents the percentage of depression prevalence. As show in the Fig 8.

According to the data from GBD Results, it can create the above chart. Based on the chart, the following conclusions can be drawn: In High SDI areas, the peak prevalence percentage of depression occurs in the 20-24 age group. Additionally, the prevalence percentages of depression are relatively high in the 14-19 and 25-29 age groups. In light of real-life situations, this may be related to cognitive changes during adolescence, changes in socializing patterns, academic pressures during college studies, employment pressures, and the subsequent life pressures and mate selection-related stresses. Further analysis is needed to draw specific conclusions.

From the graph, it can be seen that the prevalence percentage of depression generally shows a downward trend in the age groups of 40-44 years old and after 44 years old. This may be related to the reduction of life pressures and the good pension security in High SDI areas. The specific reasons still require further analysis.

After the age of 80, up to the 85-89 age group, there is a slight increase in the percentage of depression prevalence, which is preliminarily attributed to widowhood and the passing of friends and relatives in late life. Of course, chronic illnesses in the elderly are also one of the factors that cannot be overlooked.

The range of change in the prevalence percentage of depression in women is greater than that in men, which may be somewhat related to the differences in the way men and women think. Of course, postpartum depression caused by women's childbirth and the psychological impact on women during child-rearing are also factors that cannot be ignored.

4.2. Preliminary Analysis of Depression Prevalence Rates by Percentage by Gender and Age Groups in High-Middle SDI Regions

In which, "Value" in the chart represents the percentage of depression prevalence.

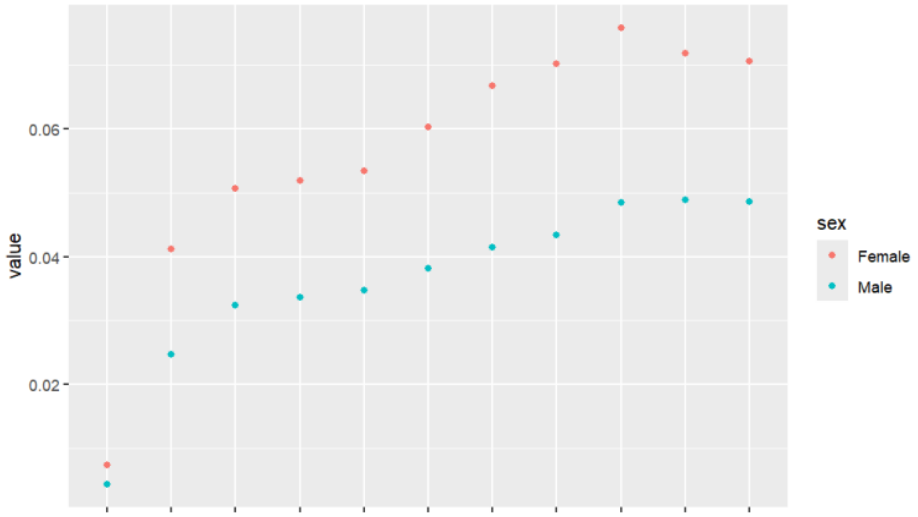

Figure 9. Scatter Plot Analysis of Depression Prevalence Across Age Groups by Gender (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: As show in the Fig 9.

Overall, the trend of the percentage of depression prevalence between males and females as it changes with age is basically the same, and it shows an overall upward trend. In the age range of 50 to 74 years, the percentage of depression prevalence reaches its peak, followed by a slight decrease.

In the age groups from 20 to 24 to 30 to 34, the percentage change in the prevalence of depression is relatively smooth, which may suggest that in High-middle SDI regions, there are not many changes in stress from university studies to stable employment. This may be related to the relatively high employment rates in High-middle SDI regions compared to other regions.

4.3. Preliminary Analysis of Depression Prevalence Rates by Percentage by Gender and Age Groups in Middle SDI Regions

In which, "Value" in the chart represents the percentage of depression prevalence.

According to the chart, the following conclusions can be drawn:

Overall, the trend of the percentage of depression prevalence between males and females as it changes with age is basically the same, and it shows an overall upward trend. In the age range of 50 to 74 years, the percentage of depression prevalence reaches its peak, followed by a slight decrease.

The change in the percentage of depression prevalence from the 0-14 age group to the 20-24 age group is relatively rapid, which may be related to the heavier academic pressure and the rapid change in thinking during adolescence in the Middle SDI regions. In contrast, the change in the percentage of depression prevalence from the 20-24 age group to the 30-34 age group is relatively slow. This may be associated with the relatively reduced academic and employment pressures after entering university in the Middle SDI regions, and at the same time, the relatively high employment rate in the Middle SDI regions may also be one of the reasons for the relatively slow increase in the percentage of depression prevalence at this age stage. As show in the Fig 10.

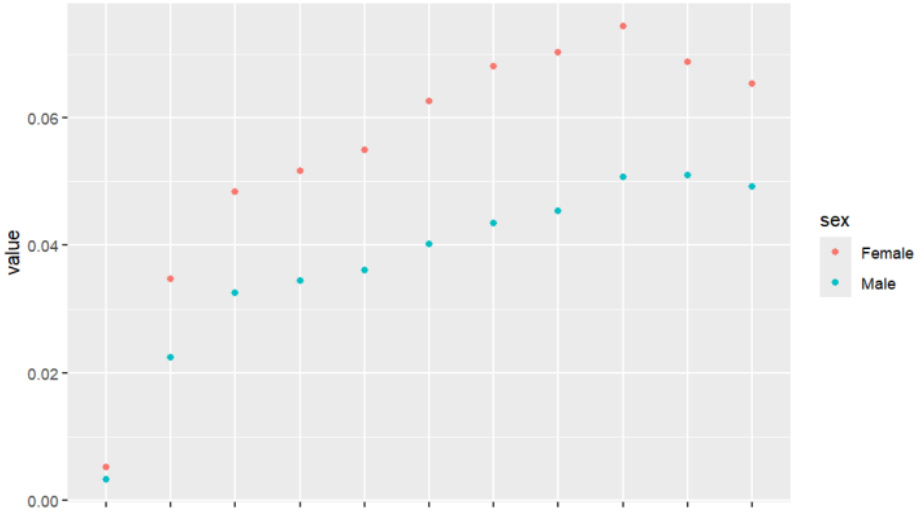

Figure 10. Comparative Point Analysis of Depression Prevalence by Age and Gender (Photo credit: Original)

4.4. Preliminary Analysis of Depression Prevalence Rates by Percentage by Gender and Age Groups in Low-middle SDI Regions

In which, "Value" in the chart represents the percentage of depression prevalence. As show in the Fig 11.

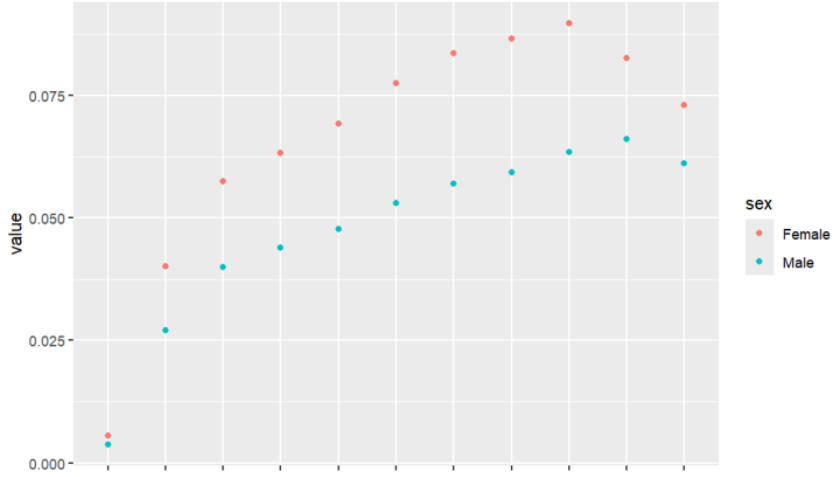

Figure 11. Trend Analysis of Depression Prevalence Across Age Groups (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: Overall, the trend of the percentage of depression prevalence between males and females as age increases is basically the same, and it shows an overall upward trend. In the age range of 50 to 74 years, the percentage of depression prevalence in females reaches its peak, followed by a slight decrease. In the age range of 75 to 84 years, the percentage of depression prevalence in males reaches its peak, followed by a slight decrease.

The change in the prevalence percentage of depression from the 0-14 age group to the 40-24 age group is relatively fast, which may be related to the heavier academic pressure in the Low-middle SDI regions, including the pressure of further studies, university studies, and employment, as well as the work and life pressures after entering middle age. At the same time, the relatively low employment rate in Low-middle SDI regions may also be one of the reasons for the relatively rapid increase in the prevalence percentage of depression in this age group.

From the graph, it can be seen that the percentage of women with depression begins to decline after the age group of 50-74, while the percentage of men with depression starts to decline after the age group of 75-84. The reasons for this phenomenon may be related to the different prevalence rates of elderly diseases between men and women. At the same time, the relatively low number of disposable assets and relatively poor medical conditions in the Low-middle SDI regions may also be reasons for this phenomenon.

4.5. Preliminary Analysis of Depression Prevalence Rates by Percentage by Gender and Age Groups in Low SDI Regions

In which, "Value" in the chart represents the percentage of depression prevalence. As show in the Fig 12.

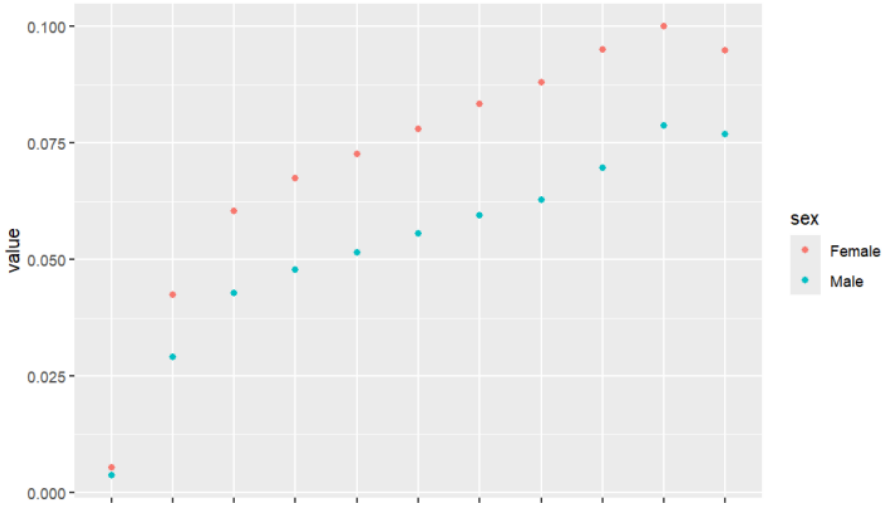

Figure 12. Trend Analysis of Depression Prevalence Across Age Groups (Photo credit: Original)

Based on the chart, the following conclusions can be drawn:

Overall, the trend of the percentage of depression prevalence between males and females as it changes with age is basically the same, and it shows an overall upward trend. In the 75 to 84 age range, the percentage of depression prevalence reaches its peak, followed by a slight decrease.

Compared to the other four SDI regions, the peak and decline trend of depression prevalence percentage in Low SDI regions appear the latest. This phenomenon may be related to the greater life stress, poorer public health care levels, and more chaotic living environments in Low SDI regions. At the same time, the number of medical institutions capable of conducting depression screening in Low SDI regions is relatively small, and the public health awareness of the people in this region is weaker. Therefore, the data collected may have certain biases.

Compared to the other four SDI regions, the prevalence percentage of depression in Low SDI regions generally shows an upward trend with age, and the increase is relatively large. The difference in the prevalence percentage of depression between males and females is smaller, which may be related to the relatively poor living conditions in Low SDI regions.

Analysis of the correlation between the prevalence of depression and various factors

5. Preliminary Quantitative Analysis of Correlates of Depression

Firstly, divide people into 16 different age groups based on their ages:

0~14 years old is the first age group; 15~19 years old is the second age group; 20~24 years old is the third age group; 25~29 years old is the fourth age group; 30~34 years old is the fifth age group; 35~39 years old is the sixth age group; 40~44 years old is the seventh age group; 45~49 years old is the eighth age group; 50~54 years old is the ninth age group; 55~59 years old is the tenth age group; 60~64 years old is the eleventh age group; 65~69 years old is the twelfth age group; 70~74 years old is the thirteenth age group; 75~79 years old is the fourteenth age group; 80~84 years old is the fifteenth age group; 85~89 years old is the sixteenth age group.

5.1. Preliminary Analysis of Depression Prevalence Rates Across Different Age Groups

In which, "Value" in the chart represents the magnitude of the incidence rate of depression.

According to the data from GBD Results, it can create the following chart. As show in the Fig 13.

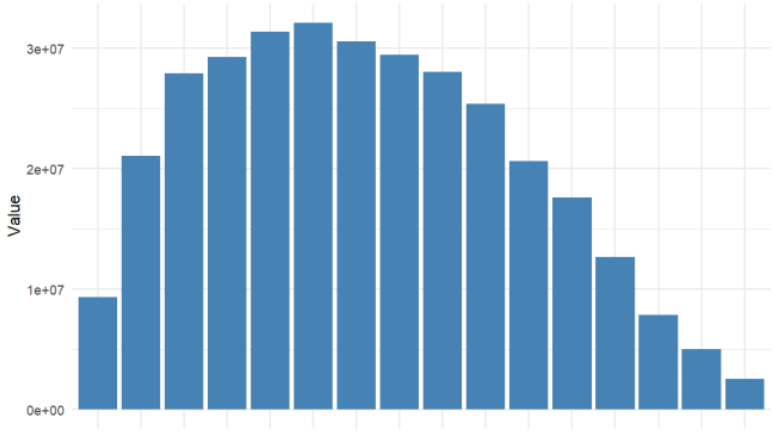

Figure 13. Population Distribution by Age Group (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: Between the age groups of 0-14 and 35-39, the prevalence of depression is gradually increasing; from the age group of 35-39 to 85-89, the prevalence of depression is continuously decreasing.

Between the age groups of 0-14 and 20-24, the growth rate of depression prevalence is relatively fast; from the age group of 20-24 to 35-39, the growth rate of depression prevalence slows down; from the age group of 35-39 to 55-59, the decline in depression prevalence is relatively slow; from the age group of 55-59 to 85-89, the decline in depression prevalence is relatively fast.

The prevalence of depression reaches its peak in the age range of 35 to 39 years old. Analyzing the reality, the reasons for this phenomenon may be related to work pressure and life pressure, and further analysis is needed.

The prevalence of depression is relatively small in the age range from 70 to 74 years and beyond.

5.2. Preliminary Analysis of Depression Prevalence Values Between Different SDI Regions

In which, "Value" in the chart represents the magnitude of the incidence rate of depression.

According to the data from GBD Results, the following chart can be made.

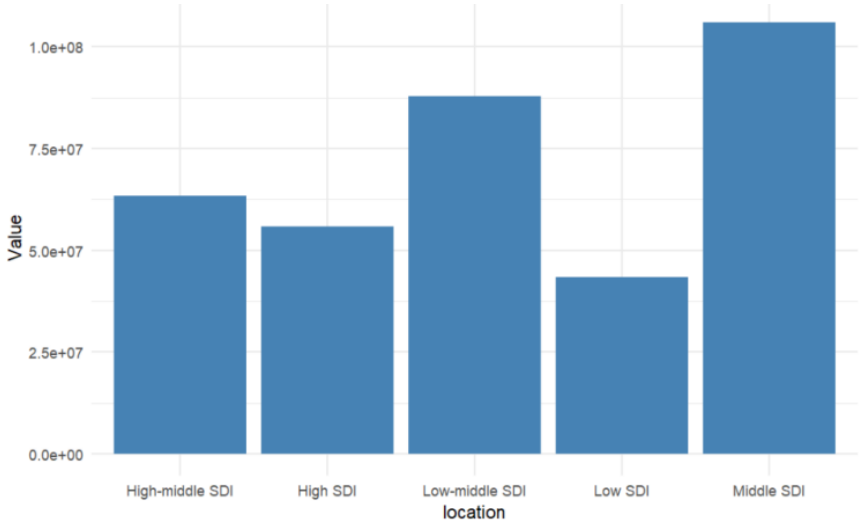

Figure 14. Population Distribution by SDI Region (Photo credit: Original)

Based on the chart, the following conclusions can be drawn. As show in the Fig 14. The Middle SDI region has the highest prevalence of depression. The prevalence of depression in low-middle SDI regions is relatively high, which may be related to the lower employment rates and greater life pressures in these areas. At the same time, the level of medical conditions in some parts of the low-middle SDI regions is underdeveloped, thus the detection data for depression in these areas may have certain errors. From the chart, it can be seen that the prevalence of depression is lowest in Low SDI regions. However, since the public health conditions in most Low SDI areas are generally poor, there may be significant errors in the detection data for depression.

Depression prevalence rates are lower in both high SDI and high-middle SDI regions and the Figures are quite similar. This may be related to the better living conditions and more suitable living environments in these two types of regions.

5.3. Preliminary Analysis of Depression Prevalence Rates Between Different Genders

According to the data from GBD Results, the following chart can be made. In which, the "Value" in the chart represents the magnitude of the incidence rate of depression. According to the chart, it can be concluded that globally, the prevalence rate of depression in women is higher than that in men. As show in the Fig 15.

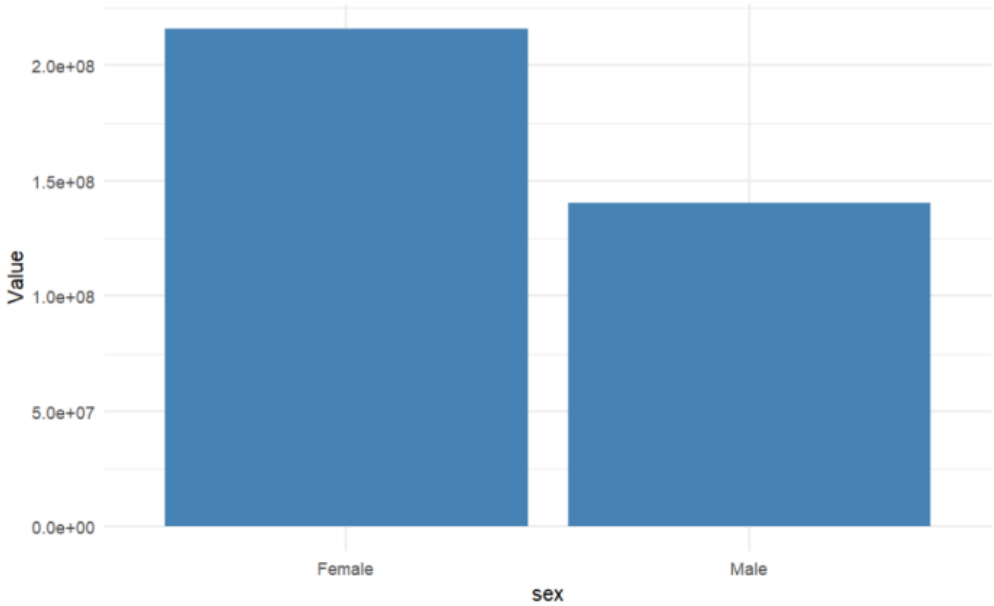

Figure 15. Population Comparison by Gender (Photo credit: Original)

6. Further analysis of the correlation values associated with different factors of depression

6.1. Further Analysis of Depression Prevalence Rates Across Different Age Groups in Five SDI Regions

In which, the "Value" in the chart represents the magnitude of the incidence rate of depression.

According to the data from GBD Results, the following chart can be made. As show in the Figure 16.

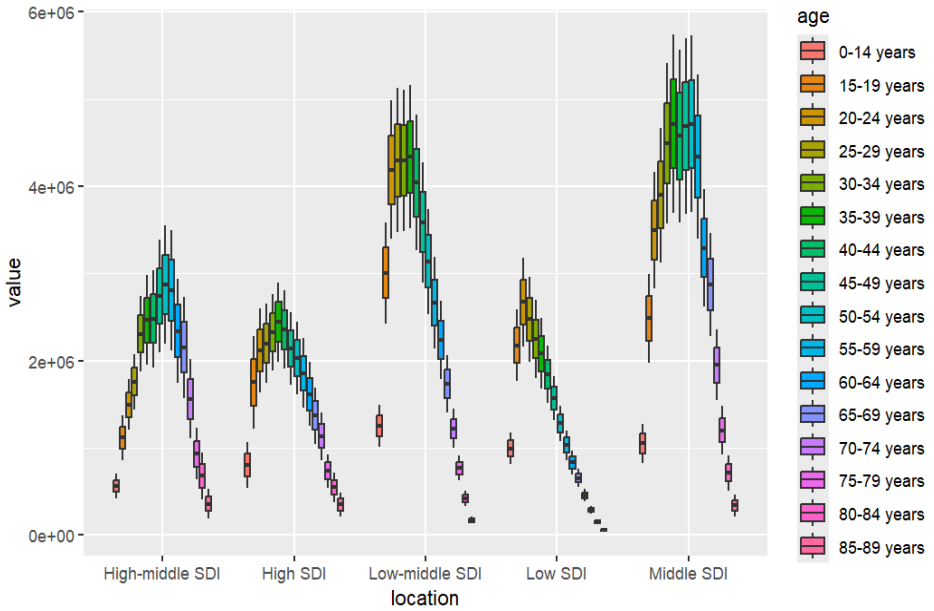

Figure 16. Detailed Age Distribution Across SDI Regions (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: Overall, the prevalence of the five SDI regions shows a trend of increasing first and then decreasing with age, but the age range at which the peak prevalence of depression occurs varies among the five SDI regions.

The peak of depression prevalence in low SDI regions occurs the earliest, reaching its peak between the ages of 20 to 24, after which the prevalence gradually decreases with increasing age.

The peak prevalence of depression in the low-middle SDI region occurs in the 35-39 age group, after which the prevalence gradually decreases with age. However, it is noteworthy that the change in the prevalence of depression from the 15-19 age group to the 35-39 age group is quite gradual, and the values in this range are relatively high. This may be related to the significant pressure of further education and employment in the low-middle SDI region, and specific reasons require further analysis.

The prevalence of depression in the Middle SDI region is generally higher compared to other regions. Notably, the prevalence of depression shows a rapid growth trend from the 0-14 age group to the 35-39 age group. However, from the 35-39 age group to the 55-59 age group, the change in depression prevalence is relatively stable, and even shows a slight decrease. In reality, this may be related to the fact that people in this age group do not experience significant changes in work and life pressures. From the 55-59 age group and onwards, the prevalence of depression shows a rapid decline. This may be related to the rapid reduction in work and life pressures after reaching retirement age.

The peak prevalence of depression in the high-middle SDI regions occurs in the 50-54 age group. From the 0-14 age group to the 50-54 age group, the prevalence of depression shows an overall increasing trend with a relatively rapid rate of increase; from the 50-54 age group and onwards, the prevalence of depression shows an overall decreasing trend with a relatively rapid rate of decrease.

The peak of depression prevalence in high SDI regions occurs in the 35-39 age group. From the 0-14 age group to the 35-39 age group, the prevalence of depression shows an overall increasing trend

with a slow rate of increase; from the 35-39 age group and onwards, the prevalence of depression shows an overall decreasing trend with a rapid rate of decrease.

Overall, compared to the depression prevalence in the Low-middle SDI and Middle SDI regions, the prevalence of depression in the High-middle SDI, High SDI, and Low SDI regions is relatively lower. However, in the 50-54 age group and beyond, the prevalence of depression is relatively low across all five SDI regions.

6.2. Further Analysis of Depression Prevalence Rates Across Different Genders and Age Groups

In which, "Value" in the chart represents the magnitude of the incidence rate of depression. As show in the Fig 17, Fig 18.

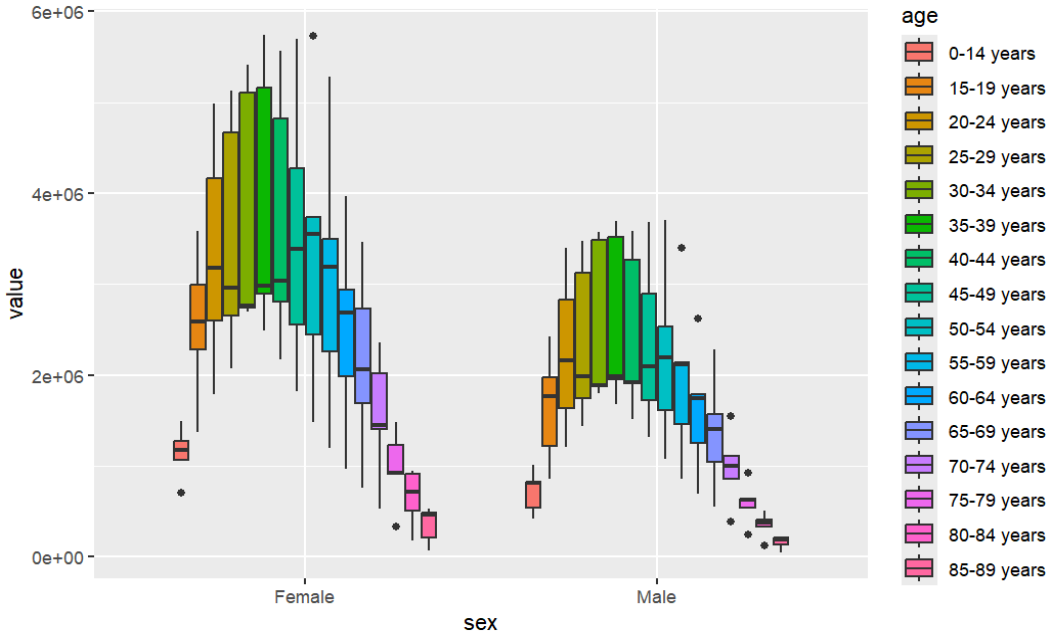

Figure 17. Gender and Age Distribution of Population (Photo credit: Original)

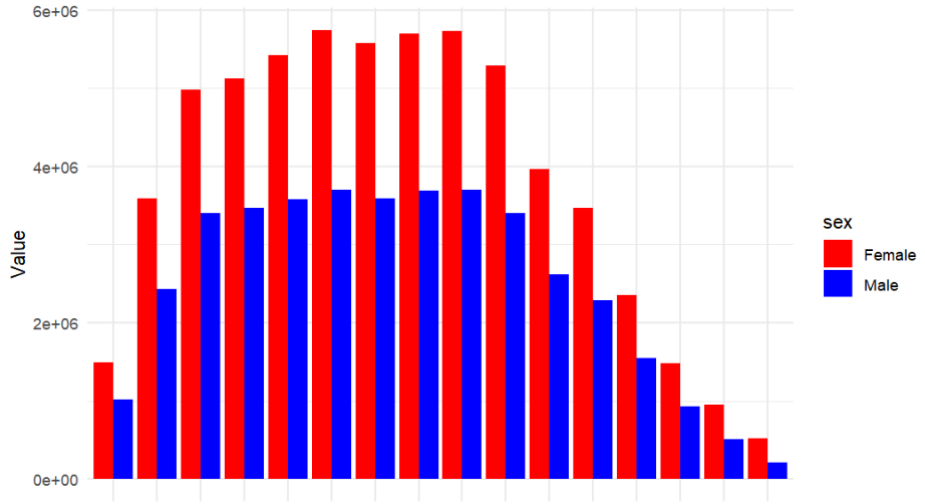

Figure 18. Age Distribution of Population by Gender (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: The peak prevalence of depression for both men and women occurs in the 30-34 age group. The trend in depression prevalence with age is essentially the same for both genders, with an increase in prevalence from the 0-14 age group to the 30-34 age group; relatively small changes in prevalence from the 30-34 to the 50-54 age group; and a gradual decline in prevalence from the 50-54 to the 85-89 age group.

In different age groups, the prevalence of depression in women is always greater than that in men.

6.3. Further analysis of the prevalence rates of depression between different genders in the five SDI regions

In which, "Value" in the chart represents the magnitude of the incidence rate of depression. According to the data from GBD Results, the following chart can be made. As show in the Fig 19.

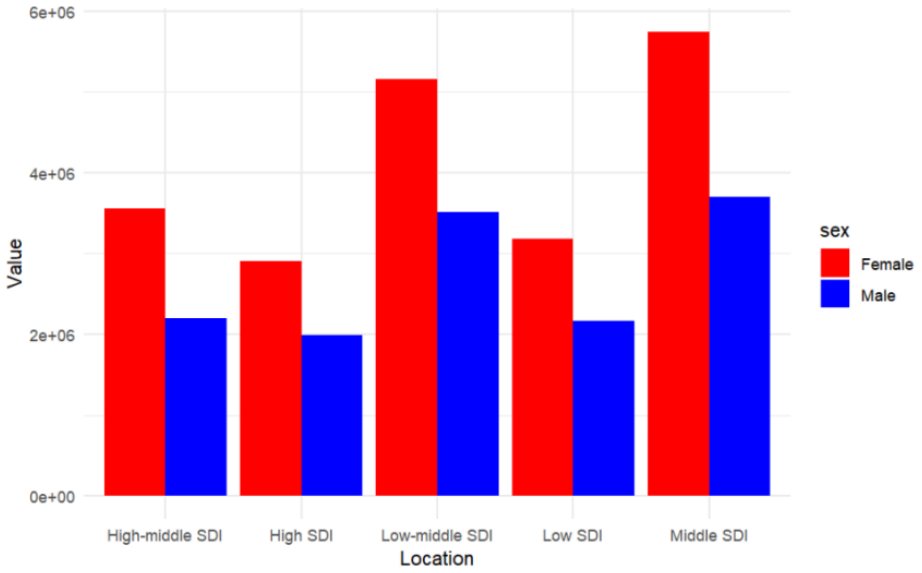

Figure 19. Population Distribution by Gender Across SDI Regions (Photo credit: Original)

Based on the chart, the following conclusions can be drawn: In five different SDI regions, the prevalence of depression in women is consistently higher than in men.

As can be seen in the graph, the difference in depression prevalence rates between males and females is smallest in High SDI regions, while it is largest in Middle SDI regions.

The difference in the prevalence rates of depression between men and women, arranged from largest to smallest, is as follows: Middle SDI region > Low-middle SDI region > High-middle SDI region > Low SDI region > High SDI region.

From the graph, it can be seen that the differences in the prevalence of depression between males and females across various regions are consistent. That is, the prevalence of depression in females from highest to lowest is ranked as follows: Middle SDI region > Low-middle SDI region > High-middle SDI region > Low SDI region > High SDI region; and the order of the percentage of depression prevalence in males from high to low is the same as that of females, which is: Middle SDI region > Low-middle SDI region > High-middle SDI region > Low SDI region > High SDI region.

7. Conclusion

This analysis elucidates the complex nature of depression prevalence, highlighting significant variations across sociodemographic index (SDI) regions, age groups, and genders. Findings indicate that depression is most prevalent in Low SDI regions and least in Middle SDI regions, suggesting an inverse relationship between socio-economic development and depression rates. The age distribution reveals that young adults, particularly those aged 20-24, are most vulnerable, underscoring the importance of targeted mental health interventions during early adulthood. Gender disparities are evident, with females experiencing higher rates of depression than males, pointing to the need for gender-sensitive mental health services. Lower detection rates in less developed regions call for improved mental health services and awareness programs to enhance data accuracy and quality of life. Addressing these disparities requires tailored strategies that consider specific needs and circumstances, with further research needed to explore the underlying socio-economic and gender-related factors influencing depression prevalence. This study lays a foundational understanding for refining prevention and treatment approaches, aiming to alleviate the global impact of depression.

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