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Research article

The Impact of Education and Age on Psychiatric Disorders: A study from Urban and Slum population in Indore District

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Abstract

The prevalence of psychiatric disorders across different age groups and education levels in both urban and slum populations are explored through this study. A total of 1,130 individuals from the urban population and 1,382 individuals from the slum population were surveyed in Indore district of M.P India. Observation revealed that the age group of 1-16 years exhibited the highest proportion of typical distress, while the elderly above 60 exhibited the highest percentage of severe distress, especially in the slum population. The analysis also specified a complex relationship between education and psychiatric disorders. The education group of up to primary level showed the highest proportion of psychiatric diagnoses while the graduate and above group, though smaller in number, displayed the highest absolute number of cases. Interestingly, the age group of 9-12 years education group exhibited the highest percentage of psychiatric diagnoses 57.1%, despite having a smaller sample size. These findings suggest that lower education levels are associated with a higher proportion of psychiatric disorders, while individuals with higher education face significant mental health challenges probably influenced by some socio-economic factors. The study emphasizes the need for targeted mental health interventions for vulnerable age groups and individuals with lower education, particularly in socio-economically disadvantaged areas. Our study is rare of its kind where survey was conducted door to and population size was large. This study is different also in respect to

the epidemiological studies with such a methodological design that evaluates each subject with the administration of MINI tool.

Introduction

Among many other researchers' efforts (Harpham 1994) and (Harpham and Blue 1995) put 'mental health' on their agenda of health studies in urban areas. On the base of these review of the literature researchers emphasized the role of social factors that contribute to mental health issues in urban areas. They recognized several factors responsible for degradation of mental health (WHO, 2001).

In India mental health has received a scarce attention specifically in the field of medicine till recent results in the slow progress in psychiatry. No or very few mental morbidity studies have been undertaken in the past although the need for assessing the prevalence of mental illness must have been considered by earlier researchers. Understanding the prevalence of psychiatric disorders among children and adolescents is a matter of understanding and an important part. According to epidemiological studies in adults more than one-third of all adolescents already suffer from mental disorders (Wittchen et al., 1998). The elderly population has shown rapid increase due to increased life expectancy. In addition to various other factors influencing health issues, psychiatric conditions are also found prevalent among older adults. The role of the elderly within the modern family structure has changed, and the feelings of loneliness make them more vulnerable to psychological disorders such as dementia, depression, and anxiety. Various factors like structure, size, socio-economic status of family, emotional health of family members, education, etc. have been observed to be influencing psychiatric conditions of people (Lahoria & Randhawa 2022).

Urbanization, characterized by a rapid increase in urban populations and the expansion of metropolitan areas, is not just a demographic shift but also envisages social, economic, and psychological changes that shape population trends. Indore, one of the prominent cities in Madhya Pradesh, attracts people from surrounding regions who settle there not only for business purposes but also for other employment opportunities. Mental health planners in India estimated the prevalence of mental disorders in the country. The data helps in understanding the psychiatric status in the country. Again in 1966, the Mental Health Advisory Committee of the Govt. of India suggested a probable prevalence of mental issues of 20 per 1000

population in general and 14 per 1000 for rural areas (Elnaggar et al., 1971).

Mental issues like dementia and depression in late life are considered as normal aging segment of life in India and are believed as requiring no medical care (Jacob et al 2007). Depression is also common presentation primarily, but the issue is not frequently diagnosed. Aging is one of the natural processes marked by physical, biological, and psychological changes. In India, the elderly population aged 60 and above increased from 5.63% in 1961 to 6.58% in 1991 and to 7.5% in 2012. Mental disorders, particularly depression, are highly prevalent among the elderly. "Geriatric depression" refers to a prolonged state of mental depression in individuals over 60 years of age. Community-based mental health studies in India have shown that the point prevalence of depressive disorders among the geriatric population ranges from 13% to 25%. Despite depression being the most common mental health issue in older adults, there have been relatively few community-based studies in India to fully understand the extent of this problem (Lahoria & Randhawa 2022, Randhawa 2023).

A large percentage over 40 percent Indian population is constituted by children of 16 yr of age and information about their mental health needs is of national imperative. From the early 1960s, efforts have been made at conducting epidemiological studies in the communities, hospitals and school settings. Community surveys are considered more representative; they include children and adolescents who do not even attend the schools and those who do not have access to mental health services. Previous studies reported prevalence rates of psychiatric disorders among children ranging from 2.6 to 35.6 per cent1-5. A comparatively recent and methodologically superior study in a sample of 1403 rural children aged 8 -12 yr reported a rate of 9.4 per cent. This small group of community-based studies provided some benchmarks for the rates of psychiatric abnormality in Indian children (Lahoria & Randhawa 2022, Randhawa 2023).

The methodological lacunae were due to the use of purposive sampling techniques, single-stage sampling designs, and small sample sizes for case ascertainment. Also there is no study about the prevalence of psychiatric problems among adolescents. An earlier epidemiological study suggested a lower prevalence of psychiatric morbidity when comparing to studies of Western countries. Epidemiological data from Indian studies are crucial for identifying the mental health service needs, guiding the training of mental health professionals,

optimizing resource allocation, and shaping government policies. These studies also provide valuable insights for cross-cultural comparisons. However, several critical methodological challenges must be addressed in these investigations. In response to the need for reliable epidemiological data, the Indian Council of Medical Research (ICMR) initiated a multicenter study across Lucknow and Bangalore to determine the prevalence of psychiatric disorders among children and adolescents in urban and rural settings. Additionally, the study aimed to explore the psychosocial factors associated with these disorders and assess the perceived treatment needs of families. This paper specifically presents findings related to the prevalence of psychiatric morbidity from the Bangalore Centre at the National Institute of Mental Health and Neuro Sciences (Lahoria & Randhawa 2022, Randhawa 2023). **Null hypothesis was used for this research i.e.,** there is no significant difference in the prevalence of psychiatric disorders based on education level in the urban population. Another hypothesis used was **Alternative i.e.,** Higher education is associated with a lower prevalence of psychiatric disorders in the urban population.

Methodology

The Indore city is located in Madhya Pradesh state of India. It is considered one of the most developed city as well as commercial capital of the state. It has Mixed Culture with Malwa Predominance. The selected 4 wards were distributed in all four directions like east, west, north and south of the city. The sample population taken was exclusively urban inhabitants (by residence and occupation) in Indore city.

This study conducted is cross-sectional design handled to explore the prevalence of psychiatric disorders in different age groups and levels of education in both urban and slum populations. The aim of this study was to understand how age, education, and socio-economic environments influence mental health in these two populations. The study was conducted in both an urban area in district Indore of M.P. India, characterized by relatively better access to healthcare and education, and a slum area, where socio-economic problems and limited healthcare access are more prevalent.

A total of 2,512 individuals were considered in the door to door survey, with 1,130 participants belongs to urban areas and 1,382 participants belongs to slum. The inclusion criteria consisted of adults of age 18 and above who resided in either urban or slum areas and provided consent to the

respondents. Individuals with severe cognitive impairments or those unable to communicate were not included in the present study. Stratified random sampling was employed to ensure proportional representation from different age groups and educational levels across both urban and slum populations. Different age groups were considered for the study is: 1-16 years, 17-39 years, 40-59 years, and above 60 years. Education levels were categorized into five sections: illiterate, up to primary education, 6-8th standard, 9-12th standard, and graduate and above.

To assess psychological distress, a structured questionnaire was used for collecting demographic data such that include age, gender, education level, and socio-economic status. The Mini International Neuropsychiatric Interview (MINI) was used to diagnose psychiatric disorders, including depression, anxiety disorders, and stress-related conditions. Additionally, the Kessler Psychological Distress Scale (K10) was administered to measure psychological distress levels. The individuals were classified into different categories such as typical distress, moderate distress, and severe distress. Structured questionnaire was formed for collecting data.

Data were analyzed using descriptive statistics to summarize demographic information and the prevalence of psychiatric disorders within each age and education subgroup. To examine the association between these variables and psychiatric disorders, Chi-square tests were performed. Furthermore, logistic regression analysis was conducted to assess the relationship between socio-demographic factors, such as age and education level, and the likelihood of having a psychiatric disorder, adjusting for potential confounders like socio-economic status.

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of the research institution. Informed consent was obtained from all participants, ensuring they understood the study's objectives and their rights to confidentiality. Participants were also informed of their right to withdraw from the study at any time without consequence. Anonymously all data was considered to protect the participants' privacy.

While the study’s cross-sectional design allows for valuable insights into the prevalence of psychiatric disorders across age and education levels, it also limits the ability to establish causal relationships. The reliance on self-reported data may have introduced reporting biases, and the study

was conducted in a specific urban and slum context, which may limit the finding to other regions or populations of the area in general.

Results

The total number of participants in the urban population surveyed was 1,130, while the slum population comprised a larger sample of 1,382 individuals. The findings reveal that the age group of 1-16 years exhibited the highest proportion of individuals experiencing typical distress (87.1%), with a relatively low incidence of severe distress of (4%). In contrast, the 17-39 age group showed the second highest proportion of typical distress (82.7%), alongside a significant 19.1% reporting moderate distress and 9.2% experiencing severe distress. A decreasing trend in typical distress was observed in the 40-59 age groups (73.3%), with 9.4% of individuals reporting severe distress. The geriatric group (ages 60 and above) demonstrated the lowest proportion of typical distress (66.4%), yet the highest percentage of individuals reporting severe distress (12.8%) among all age groups as in table (1. A). notably, individuals in the 17-39 age group represented the highest prevalence across all levels of psychological distress. In contrast, older individuals (aged 60 and above) exhibited relatively lower levels of typical distress but a greater incidence of both moderate and severe distress. These findings suggest that older adults, particularly those aged 60 and above, may be more susceptible to experiencing higher levels of psychological distress, highlighting the need for targeted mental health support in this demographic.

Table 1. A Distribution of psychological distress age wise among screened urban population

GHQ Score				**Total**
Age distribution	**Typical**	**Distress**	**Severe Distress**	
1-16	**264 (87.1%)**	**24 (7.9%)**	**15 (4%)**	**303 (100%)**
17-39	**306(82.7%)**	**70(19.1%)**	**34(9.2%)**	**370(100%)**
40-59	**160(73.3%)**	**29(13.3%)**	**21(9.4%)**	**218(100%)**
>60	**83(66.4%)**	**26(20.8%)**	**16(12.8%)**	**125(100%)**

Table 1. B: Distribution of psychological distress age wise among screened slum population

Age distribution	GHQ Score			Total
	Typical	Distress	Severe Distress	
1-16	**398 (88.4%)**	**24 (5.3%)**	**28 (6.2%)**	**450 (100%)**
17-39	**524 (84.1%)**	**50 (7.9%)**	**48 (8%)**	**622 (100%)**
40-59	**152 (69.7%)**	**52 (23.7%)**	**26 (6.6%)**	**230 (100%)**
>60	**86 (73.7%)**	**15 (12.7%)**	**16 (13.6%)**	**117 (100%)**

The majority of individuals in the 1-16 age (88.4%) showed typical psychological distress, while only 6.2% experiencing severe distress in this age group people. Similar to this the highest portion of individuals (84.1%) of 17-39 age experienced typical distress and the lowest percentage of people reporting moderate (7.9%) stress. People of age group 40-59 shows a decrease in typical distress (69.7%) and the highest value of 6.6% (table 1.2 B) was observed in severe distress in this group. In the elderly population, the proportion of typical distress (73.7%) remains relatively high. However, there is a notable increase in moderate distress (12.7%) and severe distress (13.6%) compared to younger age groups, indicating a higher level of distress in older individuals. Younger age group 1-16 in the slum population show highest percentage of individuals with typical level of psychological distress while the individuals of above 60 years of age shows lowest level of typical distress, severe distress was found highest in age group above 60 and lowest in 1-16 age group. The elderly population in the slum area, in particular, shows the highest proportion of severe distress (13.6%), indicating that this age group may be more vulnerable to

psychological difficulties in this socio-economic context.

Table 2. A: Comparison of psychiatric urban population within education subgroups

Psychiatric diagnosis	**Education**				
	Illiterate	**Up to primary**	**6-8 Std.**	**9-12 Std.**	**Graduate and above**
Present	28 (22.9%)	70 (30.4%)	78 (22.8%)	49 (14.9%)	57 (47.8%)
Absent	84	160	264	278	62
Grand Total	**122 (100%)**	**230 (100%)**	**342 (100%)**	**327 (100%)**	**119 (100%)**

Table 2. B: Comparison of psychiatric slum population within education subgroups

Psychiatric diagnosis	**Education**				
	Illiterate	**Up to primary**	**6-8 Std.**	**9-12 Std.**	**Graduate and above**
Present	70 (18.8%)	97 (27.7%)	106 (34.3%)	68 (57.1%)	22 (32.8%)
Absent	302	350	203	119	45
Grand Total	**372 (100%)**	**447 (100%)**	**309 (100%)**	**187 (100%)**	**67 (100%)**

There were apparently 28 individuals (22.9%) who were illiterate diagnosed with the psychiatric disorders. This group represents 22.9% of the total psychiatric diagnoses in this population. 70 individuals (30.4%) in up to primary subgroup were diagnosed with psychiatric disorders, representing the highest percentage of diagnosed cases across the education levels table (2. A). The rest of the population (160

individuals) did not show any psychiatric disorder. 6-8th standard group shows 78 individuals (22.8%) with psychiatric disorders. 49 individuals (14.9%) were diagnosed with psychiatric disorders in the education group of 9-12th. This group had the lowest percentage of diagnosed individuals compared to the others. In Graduate and above education group 57 individuals (47.8%) exhibited psychiatric disorder that represents the highest number of cases in this education subgroup, even though the group has the smallest number of individuals (119) in total. The group with Up to Primary Education had the highest proportion of psychiatric diagnoses (30.4%). The higher educated group, although smaller in number, exhibited highest number of individuals with psychiatric disorders (47.8%). The 9-12 standard group showed the lowest prevalence of psychiatric disorders (14.9%). Overall, psychiatric diagnoses appear in varying proportions across education subgroups, with the lower education levels showing a higher proportion of diagnosed cases, although the absolute number of cases was highest in the higher education group. This suggests that while lower education levels may have a higher percentage of psychiatric disorders, individuals with higher education (graduate and above) represent a significant portion of those diagnosed, possibly due to other socio-economic or lifestyle factors.

A total of 70 individuals comprising (18.8%) in the illiterate group of people were diagnosed with psychiatric disorders. And those with up to primary education, 97 individuals comprising 27.7% showed some signs of psychiatric disorders. Highest proportion of psychiatric disorders diagnoses was observed in the 6-8 standard education subgroups, where about 106 individuals 34.3% were diagnosed for the psychiatric disorders. The 9-12 standard education group, although consisting of a smaller population, had 68 individuals consisting 57.1% diagnosed with psychiatric disorders, the highest percentage across all education subgroups. Despite its smaller sample size of about 67 individuals, the 9-12 standard group exhibited a significant proportion 32.8% of psychiatric diagnoses, highlighting a notable prevalence of mental health issues.

The 6-8 standard education groups accounted for the largest total number of psychiatric diagnoses (34.3%) (Table 2. B), while the 9-12 standard groups had the highest percentage of diagnosed individuals (57.1%). Conversely, the graduate and above group, despite having the lowest total number of psychiatric diagnoses, displayed a considerable percentage of diagnosed

individuals (32.8%). The illiterate group, although comprising a larger segment of the slum population, showed the lowest percentage of psychiatric diagnoses (18.8%). These findings suggest that, within the slum population, individuals with lower levels of education (up to primary or 6-8 standard) exhibit a higher total number of psychiatric diagnoses, while those with higher education levels, particularly in the 9-12 standard range, show a higher proportion of diagnosed individuals. This pattern underscores the complex relationship between educational attainment and mental health, with both total number and proportion of psychiatric diagnoses varying across education subgroups.

Discussion

This study highlights significant differences in psychological distress among different age groups in both urban and slum populations. The highest proportion of typically distressed individuals was observed in children and adolescents (ages 1-16), with relatively low levels of severe distress in them, aligning with other research suggesting that younger individuals often experience transient distress due to environmental and developmental stressors. The 17-39 age group exhibited a high rate of both typical distress (82.7%) and moderate to severe distress, likely reflecting the pressures associated with the life transitions such as education, employment etc. The upper 40-59 age group showed a decrease in typical distress but an increase in severe distress, which may be linked to midlife challenges such as career pressures and health concerns.

A notable finding is the higher proportion of severe distress among individuals aged 60 and above, particularly in the slum population. Although this group had the lowest proportion of typical distress, the incidence of severe distress was highest, which may be influenced by factors such as physical health decline, social isolation, and limited access to healthcare in socio-economically disadvantaged areas. This suggests that older adults, especially in slum settings, are particularly vulnerable to mental health challenges and may benefit from targeted mental health interventions.

In short this study emphasizes the need to consider both age and socio-economic factors when assessing psychological distress. The geriatric, particularly in slum environments, appear to be at increased risk for severe distress, indicating the importance of addressing their specific mental health needs through tailored interventions and support.

The findings of this study reveal a complex relationship between education levels and the prevalence of psychiatric disorders in the slum population. Individuals with lower levels of education, particularly those in the illiterate and up to primary education groups, showed a higher proportion of psychiatric diagnoses, with 22.9% and 30.4% of individuals in these groups respectively diagnosed. This suggests that individuals with less education may be more vulnerable to mental health issues, possibly due to limited access to healthcare, lower socio-economic status, and higher exposure to environmental stressors.

The 6-8 standard education group exhibited the highest total number of psychiatric diagnoses (34.3%), while the 9-12 standard group had the highest percentage of diagnoses (57.1%). Despite the smaller sample size in the 9-12 standard group, the higher percentage suggests that individuals in this group may experience significant psychological distress, potentially due to academic or social pressures. This finding is consistent with other research showing that higher education levels can sometimes be associated with increased stress, as individuals may face greater expectations and pressures (Eisenberg et al., 2009).

Interestingly, the graduates and above education level group, although representing the smallest sample showed a high percentage of 47.8% psychiatric diagnoses. This may reflect the impact of other socio-economic factors, such as job-related stress, social isolation, or lifestyle factors, which can contribute to mental health issues despite higher educational attainment. On the other hand, the illiterate group, which represents a larger segment of the population, showed the lowest proportion of psychiatric diagnoses (18.8%), possibly due to underreporting or limited recognition of mental health symptoms.

Overall, while lower education levels are associated with a higher proportion of psychiatric disorders, individuals with higher education particularly particularly in the 9-12 th standard group represent a significant portion of those diagnosed. This underscores the multifaceted nature of mental health, where both education and socio-economic factors play key roles in shaping the prevalence of psychiatric disorders. Further research is needed to better understand the specific socio-economic and lifestyle factors influencing mental health across different education levels

Conclusion

This study provides valuable insights into the relationship between age, education,

and psychiatric disorders within urban and slum populations. The results reveal notable differences in the prevalence and types of psychological distress across age groups. In both urban and slum populations, younger individuals (ages 1-16) exhibited the highest levels of typical distress, with very few experiencing severe distress. Conversely, older adults (ages 60 and above) displayed the lowest levels of typical distress but a significantly higher incidence of severe distress, particularly within the slum population. This suggests that the elderly, especially in socio-economically disadvantaged areas, may be more vulnerable to mental health challenges and require targeted interventions to address their unique needs.

When comparing education levels, the study found a complex pattern in the distribution of psychiatric disorders. Individuals with lower education levels, particularly those in the illiterate and up to primary education groups, showed a higher proportion of psychiatric diagnoses. However, individuals with higher education (particularly those with 9-12 years of schooling) had the highest percentage of diagnoses, despite representing a smaller proportion of the population. This suggests that while lower educational attainment may be associated with a higher overall number of psychiatric disorders, individuals with higher education levels might experience greater psychological distress due to socio-economic pressures, academic demands, or lifestyle factors.

The findings underscore the need for a nuanced approach to mental health care that considers both age and educational background. While younger and less educated individuals may face more widespread distress, older adults, especially those in disadvantaged settings, represent a high-risk group for severe psychological distress. The results also highlight the importance of integrating educational and socio-economic factors into mental health interventions to better address the needs of diverse population groups, particularly in urban and slum settings where such factors are closely intertwined with mental health outcomes.

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References

1. Elnagar MN, Maitra P, Rao MN (1971). Mental health in an Indian rural community. Br J Psychiatry; 118:499-503.

2. Harpham T & Blue, I. (1995). Eds. Urbanization and Mental Health in Developing Countries. Aldershot: Avebury.
3. Harpham, T. (1994). Urbanisation and mental health in developing countries, a research role for social scientist, public health professionals and social psychiatrist. Social Science and Medicine, 39(2), 233–245.
4. Jacob, K. S., Kumar, P. S., Gayathri, K., Abraham, S., & Prince, M. J. (2007). The diagnosis of dementia in the community. *International Psychogeriatrics*, *19*(4), 669-678.
5. Kessler RC, Mc Gonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. Arch Gen Psychiatry 1994; 51:8- 19.
6. Lahoria, B., & Randhawa, K. (2022). Prevalence and pattern of psychiatric disorders associated with urbanisation in Indore city. *Neuro Quantology*, *20*(12), 373.
7. Randhawa, K. (2023). Clinical Profile of Geropsychiatric Patients In A Tertiary Care Hospital. *Journal of Pharmaceutical Negative Results*, *14*.
8. Singh, A., Solanki, N., Chittora, G., & Thukral, R. Clinnical profile of geropsychiatric patients in a tertiary care hospital. *Hindu*, *266*, 85-5.
9. Sinha D. Some recent changes in the Indian family and their implications for socialization. Indian J Soc Work 1984; 45:271-86.
10. Thacore VR. Mental Illness in an Urban Community. Allahabad: United Publishers; 1979.
11. Wittchen, H. U., Nelson, C. B., & Lachner, G. (1998). Prevalence of mental disorders and psychosocial impairments in adolescents and young adults. *Psychological medicine*, *28*(1), 109-126.
12. World Health Organization (WHO). 2001. The World Health Report 2001, Mental Health: New Understanding, New Hope. Geneva: WHO.