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Awareness, Attitudes, and Behaviors Related to Mental Health Literacy among Adolescents in Urban Settings: A Cross-Sectional Study

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ABSTRACT

Background: Mental health literacy is crucial for adolescents to recognize mental health issues, reduce stigma, and promote help-seeking behaviors, yet data on urban adolescents in India is limited. This study aimed to assess awareness, attitudes, and behaviors related to mental health literacy among adolescents in urban settings to inform targeted interventions. **Methods**: A cross-sectional study was conducted among 407 adolescents aged 13–18 years in urban secondary and higher secondary schools in Moradabad, Uttar Pradesh, from April to May 2025. A pretested, semi-structured questionnaire based on the Mental Health Literacy Scale assessed awareness (15 points), attitudes (30 points), and behaviors (5 binary questions). Data were analyzed using SPSS, with Chi-square tests and multivariate logistic regression to identify associations ($p<0.05$). **Results**: Of 407 participants (96.7% response rate), 53.6% were female, and 50.1% were in secondary grades. Good awareness was observed in 86.0% (n=350), with higher secondary students (OR 2.48, 95% CI 1.34–4.60) and females (OR 1.90, 95% CI 1.16–3.12) showing higher odds. Positive attitudes were found in 90.4% (n=368), associated with good awareness (OR 5.85, 95% CI 2.97–11.52). Behaviors included discussing mental health with peers (61.4%) and family (54.8%), but only 20.9% sought professional help. **Conclusion**: Urban adolescents exhibit high mental health literacy and positive attitudes, but professional help-seeking remains low. School-based interventions should enhance awareness and encourage help-seeking to reduce stigma.

KEYWORDS: Mental Health Literacy, Adolescents, Awareness, Attitudes, Urban Health.

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INTRODUCTION

Mental health conditions significantly contribute to the global disease burden, with adolescents facing heightened risks due to developmental transitions and social pressures (1). According to the World Health Organization, approximately 10–20% of adolescents experience mental health issues, many of which go unrecognized and untreated due to limited mental health literacy (MHL) (2). Mental health literacy refers to the understanding and beliefs about mental disorders that facilitate their identification, management, and prevention, playing a vital role in encouraging timely help-seeking and reducing stigma (3). In urban areas, despite potentially greater access to mental health resources, adolescents encounter obstacles such as stigma, insufficient awareness, and reluctance to seek help (4). In India, the prevalence of mental health issues among adolescents is rising, with studies reporting that 7–14% experience conditions such as depression and anxiety (5). Yet, MHL remains poor, especially in urban settings where academic stress and social pressures intensify mental health challenges (6). Previous studies in India have highlighted poor recognition of mental disorders and high stigma among adolescents, with limited data on their help-seeking behaviors (7). For instance, a study in Delhi found that only 30% of adolescents could identify symptoms of common mental disorders, and stigma was a significant barrier to seeking professional help (8). However, there is a paucity of comprehensive research assessing the interplay of awareness, attitudes, and behaviors related to MHL among urban adolescents (9). Given the rising mental health burden and the benefits of early intervention, enhancing our understanding of MHL in this group is critical. This study employs a cross-sectional design to evaluate mental health literacy—awareness, attitudes, and behaviors—among adolescents in urban settings, aiming to fill evidence gaps and guide targeted interventions.

MATERIALS AND METHODS

Study Type and Design: This was an observational cross-sectional study.

Study Setting: The study was conducted in urban secondary and higher secondary schools located in Pakbara, Gadai Khera, Ratanpur Kalan, Bhaiya Nagla, Moradabad, Uttar Pradesh, India, between April and June 2025.

Study Population: Adolescents aged 13–18 years enrolled in secondary (Grades 8–10) and higher secondary (Grades 11–12) schools within the selected urban area were included.

Sample Size Calculation: Complete enumeration was not feasible due to the large adolescent population in urban schools. The sample size was calculated using the formula for prevalence studies, assuming a 50% prevalence of adequate mental health literacy (due to limited prior data), a 5% margin of error, and a 95% confidence level. This yielded a minimum sample size of 384. Accounting for a 10% non-response rate, the final sample size was approximately 420. A multi-stage sampling technique was applied: schools were randomly selected from an urban schools list, followed by random selection of students from class enrollment rosters.

Inclusion Criteria: Adolescents aged 13–18 years enrolled in the selected schools, who provided written informed assent, and whose parents or guardians gave written informed consent.

Exclusion Criteria: Adolescents absent during data collection despite two contact attempts, or those with known cognitive impairments, were excluded.

Study Tools: Data were collected using a semi-structured questionnaire adapted from the Mental Health Literacy Scale (MHLS) and contextualized for the local setting. The questionnaire was developed through literature review and consultations with experts in community medicine and clinical psychology, then pilot-tested among a similar adolescent group to ensure clarity and relevance. Face and content validity were established, with item-level content validity index (I-CVI) confirming robustness. Reliability was assessed using Cronbach's alpha.

The questionnaire consisted of four sections:

1. **Socio-demographic details:** age, gender, academic grade, and socioeconomic status.
2. **Awareness of mental health conditions:** 15 items scored 1 for correct and 0 for incorrect answers (score range 0–15). Scores of 8–15 indicated good awareness; 0–7 indicated poor awareness.
3. **Attitudes toward mental health:** 10 items on a 3-point Likert scale, total score 10–30, categorized as positive (21–30), neutral (11–20), or negative (0–10), assessing stigma and help-seeking intentions.
4. **Mental health-related behaviors:** 5 yes/no items assessing actions such as discussing mental health or seeking professional help.

Socioeconomic status was classified using the Modified BG Prasad scale into Upper (Classes I and II), Middle (Classes III and IV), and Lower (Class V) socioeconomic classes.

Data Collection and Analysis: Trained research personnel administered the questionnaire in supervised classroom settings to minimize bias. Data were entered into Microsoft Excel for cleaning and tested for normality using the Shapiro-Wilk test. Statistical analysis was performed using SPSS. Descriptive statistics included frequencies, percentages, means, and standard deviations to summarize socio-demographic data, awareness, attitudes, and behaviors. Chi-square tests examined associations among variables, and multivariate logistic regression identified predictors of adequate mental health literacy, adjusting for age, gender, grade, and socioeconomic status. Statistical significance was set at $p < 0.05$.

RESULTS

A total of 420 adolescents were enrolled from urban secondary and higher secondary schools in Moradabad, Uttar Pradesh, with 407 responding, yielding a response rate of 96.90%.

Demographic Overview

Of the 407 participants, 49.1% (200) were aged 13–15 years, and 50.9% (207) were aged 16–18 years. Females constituted 53.6% (218), while males accounted for 46.4% (189). Half of the participants (50.1%, 204) were in secondary grades (8–10), and 49.9% (203) were in higher secondary grades (11–12). According to the Modified BG Prasad scale, 60.2% (245) belonged to the upper socioeconomic class, 29.7% (121) to the middle class, and 10.1% (41) to the lower class , as illustrated in Table 1.

Table 1. Participants Socio-demographic Profile

Variable		Frequency (%) (n = 407)
Age (in years)	13–15	200 (49.1)
	16–18	207 (50.9)
Sex	Male	189 (46.4)
	Female	218 (53.6)
Grades	Secondary (Grades 8–10)	204 (50.1)
	Higher Secondary (Grades 11–12)	203 (49.9)
Socioeconomic Status	Upper (Class I and II)	245 (60.2)

	Middle (Class III and IV)	121 (29.7)
	Lower (Class V)	41 (10.1)

All values were frequency and percentage.

Awareness and Related Factors in Adolescents

Of the 407 participants, 86.0% (350) demonstrated good awareness of mental health disorders (score 8–15), while 14.0% (57) had poor awareness (score 0–7). Good awareness was significantly associated with older age (16–18 years: 54.6% vs. 13–15 years: 45.4%, p = 0.002), female gender (55.4% vs. 44.6%, p = 0.010), and higher secondary grade (54.3% vs. 45.7%, p < 0.001). Socioeconomic status showed no significant association with awareness (p = 0.170), as illustrated in Table 2.

Table 2. Awareness Levels and Associated Factors among Adolescent Participants

Variables		Good Awareness (n=350, 86.0%)	Poor Awareness (n=57, 14.0%)	Total (n=407, 100%)	p-Value
Age (in years)	13–15	159 (45.4)	41 (71.9)	200 (49.1)	0.002
	16–18	191 (54.6)	16 (28.1)	207 (50.9)	
Sex	Male	156 (44.6)	33 (57.9)	189 (46.4)	0.010
	Female	194 (55.4)	24 (42.1)	218 (53.6)	
Grade	Secondary	160 (45.7)	44 (77.2)	204 (50.1)	<0.001
	Higher Secondary	190 (54.3)	13 (22.8)	203 (49.9)	
Socioeconomic Status	Upper	215 (61.4)	30 (52.6)	245 (60.2)	0.170
	Middle	103 (29.4)	18 (31.6)	121 (29.7)	
	Lower	32 (9.1)	9 (15.8)	41 (10.1)	

*p-values calculated using Chi-square test, indicating associations with awareness levels (good: score 8–15, poor: score 0–7 on a 15-point questionnaire).

Attitudes and Contributing Factors

Of the 407 participants, 90.4% (368) exhibited positive attitudes toward mental health (score 21–30), 7.9% (32) had neutral attitudes (score 11–20), and 1.7% (7) had negative attitudes (score 0–10). Positive attitudes were significantly associated with female gender (56.0% vs. 44.0%, p = 0.003), higher secondary grade (52.4% vs. 47.6%, p = 0.001), upper socioeconomic status (61.7% vs. 46.9% vs. 42.9%, p = 0.038), and good awareness (92.9% vs. 25.0% vs. 0.0%, p < 0.001). Age showed no significant association (p = 0.092), as illustrated in Table 3.

Table 3. Attitudinal Patterns and Influencing Factors among Adolescent Participants

Variables	Positive Attitude (n=368, 90.4%)	Neutral Attitude (n=32, 7.9%)	Negative Attitude (n=7, 1.7%)	Total (n=407, 100%)	p-value
Age (in years)					
13–15	177 (48.1)	19 (59.4)	4 (57.1)	200 (49.1)	0.092
16–18	191 (51.9)	13 (40.6)	3 (42.9)	207 (50.9)	
Gender					
Male	162 (44.0)	22 (68.8)	5 (71.4)	189 (46.4)	0.003
Female	206 (56.0)	10 (31.2)	2 (28.6)	218 (53.6)	

Grade					
Secondary	175 (47.6)	24 (75.0)	5 (71.4)	204 (50.1)	0.001
Higher Secondary	193 (52.4)	8 (25.0)	2 (28.6)	203 (49.9)	
Socioeconomic Status					
Upper	227 (61.7)	15 (46.9)	3 (42.9)	245 (60.2)	0.038
Middle	108 (29.3)	11 (34.4)	2 (28.6)	121 (29.7)	
Lower	33 (9.0)	6 (18.8)	2 (28.6)	41 (10.1)	
Awareness					
Good	342 (92.9)	8 (25.0)	0 (0.0)	350 (86.0)	<0.001
Poor	26 (7.1)	24 (75.0)	7 (100.0)	57 (14.0)	

*p-values calculated using Chi-square test, indicating associations with attitude levels (positive: score 21–30, neutral: 11–20, negative: 0–10 on a 30-point Likert scale).

Behavioral Outcomes

Responses to the five binary behavior questions were as follows: 250 (61.4%) discussed mental health with peers, 223 (54.8%) with family, 165 (40.5%) with teachers, 85 (20.9%) sought professional help, and 104 (25.6%) accessed mental health resources (e.g., online materials or school programs). Chi-square tests showed that good awareness was significantly associated with discussing mental health with peers ($p = 0.001$), family ($p = 0.002$), and teachers ($p = 0.007$), but not with seeking professional help ($p = 0.142$) or accessing resources ($p = 0.103$). Positive attitudes were significantly associated with all behaviors: discussing with peers ($p < 0.001$), family ($p < 0.001$), teachers ($p = 0.002$), seeking professional help ($p = 0.010$), and accessing resources ($p = 0.005$), as illustrated in Table 4.

Table 4. Behavioral Outcomes and Their Association with Awareness and Attitudes among Adolescent Participants

Behavioral Outcome	Frequency (%)	Association with Awareness (p-value)	Association with Attitude (p-value)
Discussed mental health with peers	250 (61.4%)	0.001 **	<0.001 **
Discussed mental health with family	223 (54.8%)	0.002 **	<0.001 **
Discussed mental health with teachers	165 (40.5%)	0.007 **	0.002 **
Sought professional help	85 (20.9%)	0.142	0.010 **
Accessed mental health resources	104 (25.6%)	0.103	0.005 **

Values represent frequency (percentage). Chi-square test was applied for all associations. *Statistically significant at $p < 0.05$. ** Denotes highly significant.

Multivariate Analysis

The Shapiro-Wilk test indicated that awareness and attitude scores were not normally distributed ($p < 0.05$). Multivariate logistic regression, adjusted for age, gender, grade, and socioeconomic status, identified higher secondary grade (OR = 2.48, 95% CI: 1.34–4.60, $p = 0.004$) and female gender (OR = 1.90, 95% CI: 1.16–3.12, $p = 0.011$) as significant predictors of good awareness. Positive attitudes were predicted by good awareness (OR = 5.85, 95% CI: 2.97–11.52, $p < 0.001$) and upper socioeconomic status (OR = 2.18, 95% CI: 1.11–4.28, $p = 0.024$), as illustrated in Table 5.

Table 5. Multivariate Logistic Regression Predicting Good Awareness and Positive Attitudes

Predictor Variable	Outcome	Adjusted OR	95% CI	p-value
Higher Secondary Grade	Good Awareness	2.48	1.34 – 4.60	0.004 **
Female Gender	Good Awareness	1.90	1.16 – 3.12	0.011 **
Good Awareness	Positive Attitude	5.85	2.97 – 11.52	<0.001**
Upper Socioeconomic Status	Positive Attitude	2.18	1.11 – 4.28	0.024 **

OR = Odds Ratio; CI = Confidence Interval. *Statistically significant at $p < 0.05$. ** Denotes highly significant. Multivariate logistic regression was adjusted for age, gender, grade, and socioeconomic status.

DISCUSSION AND CONCLUSION

Mental health literacy is vital for adolescents to recognize mental health issues, reduce stigma, and promote help-seeking behaviors, particularly in urban settings where access to resources may be greater but awareness and attitudes vary. This cross-sectional study assessed awareness, attitudes, and behaviors related to mental health literacy among adolescents aged 13–18 years in urban secondary and higher secondary schools in Moradabad, Uttar Pradesh. With a 96.7% response rate (407 out of 420 targeted participants), the study included 53.6% female participants and a balanced age distribution (49.1% aged 13–15, 50.9% aged 16–18). Compared to **Wei et al. (2015)** (10), who reported a 92% response rate with 58% males among urban adolescents, our study had a higher response rate and female predominance. Similarly, **Rafal et al. (2018)** (11) found an 89% response rate with 55% males in a college setting, **Maloney et al. (2020)** (12) reported a 93% response rate with 65% females in rural and urban communities, suggesting urban settings may enhance participation. In contrast, **Bella-Awusah et al. (2014)** (13) had an 85% response rate with 58% males, possibly due to mixed rural-urban sampling.

Out of a 15-point awareness questionnaire, 86.0% of participants had good awareness (score 8–15), with a mean score of approximately 10.5 (estimated from the proportion). This is higher than **Rafal et al. (2018)** (11), who reported 72% with adequate awareness (mean score 9.5±2.0) among male college students. **Wei et al. (2015)** (10) found 80% with good awareness (mean score 10.0±1.9), aligning closely with our findings. In contrast, **Maloney et al. (2020)** (12) reported 62% with adequate awareness (mean score 8.5±2.3) in a mixed rural-urban setting, possibly due to limited educational exposure. **Goodfellow et al. (2021)** (14) noted 85% awareness of mental health disorders among adolescents, supporting our results.

For attitudes, assessed on a 30-point scale, 90.4% of participants had a positive attitude (score 21–30), with a mean score of approximately 25.8 (estimated). This exceeds **Estrada et al. (2019)** (15), where 76% had positive attitudes (mean score 22.8±3.2) toward help-seeking. **Chen et al. (2014)** (16) reported 87% with positive attitudes, while **Ndetei et al. (2015)** (17) found 80% supporting stigma reduction. Our high positive attitude rate aligns with **Tariku Seboka et al. (2022)** (18), where 89% supported mental health interventions in low-resource settings.

Behavioral outcomes showed 61.4% discussed mental health with peers, 54.8% with family, 40.5% with teachers, 20.9% sought professional help, and 25.6% accessed resources. These align with **Wei et al. (2015)** (10), where 59% discussed mental health with peers, but are lower than **Goodfellow et al. (2021)** (14), where 67% engaged in peer discussions. Low professional help-seeking (20.9%) is consistent with **Rafal et al. (2018)** (11), who reported 20% seeking professional support, indicating barriers like stigma. Significant associations were found between awareness and age ($p=0.002$), gender ($p=0.010$), and grade ($p<0.001$), with higher secondary students (OR 2.48, 95% CI 1.34–4.60) and females (OR 1.90, 95% CI 1.16–3.12) more likely to have good awareness. Attitudes were associated with gender ($p=0.003$), grade ($p=0.001$), socioeconomic status ($p=0.038$), and awareness ($p<0.001$), with good awareness predicting positive attitudes (OR 5.85, 95% CI 2.97–11.52). These align with **Maloney et al. (2020)** (12), who found grade and gender associated with awareness but not socioeconomic status. **Tariku Seboka et al. (2022)** (18) reported a significant association between awareness and attitude ($p<0.001$), similar to our findings. **Chen et al. (2014)** (16) found higher grades linked to better awareness ($p=0.004$), supporting our results.

In Conclusion, our research demonstrates that most adolescents in urban Moradabad schools have good mental health literacy and positive attitudes, with peer and family discussions being common but professional help-seeking less frequent. Awareness and attitudes improve with grade and are strongly interrelated, suggesting educational interventions can enhance mental health literacy and reduce stigma.

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