

## Untangling Urban Minds: A Comprehensive Assessment of Mental Health Status among Young Adults in a Southern Indian city

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### KEYWORDS

GHQ-12; Mental health; Psychological distress; Urban; Young adults

### ABSTRACT

#### Background:

Mental health issues affecting social life and economic development of individuals, are often unrecognised and their impact on the patients, their families and society are underestimated. The objective of the study was to assess the mental health status of young adults and determine the factors affecting their mental health status.

#### Methods:

Community-based; cross-sectional study was conducted among 603 young adults (18-35 years) residing in an urban area of Dharwad city located in the southern part of India. General Health Questionnaire-12 (GHQ-12) was used to assess the mental health status and a pre-designed, pre-tested proforma was used for collecting data to know the factors affecting it. Data was analysed using descriptive statistics and chi-square test and odds ratio were used to find the association between two attributes.

#### Results:

Of the 603, majority 50.42% were in the age group of 24-29 years, 62.69% were males, 41.62% had completed secondary education, 39.14% were students, 55.39% were from nuclear family and 52.57% belonged to class II socio-economic status (SES). As per GHQ-12, 23.22% of young adults screened positive, indicating psychological distress, of which 97.14% had mild distress. Among males 29.63% had psychological distress, as compared to 12.44% females (OR=2.96, 95% CI=1.88-4.66, p<0.0001). Married individuals were less prone for psychological distress ( $\chi^2=8.048$ , p=0.005), whereas individuals aged 18-23 years ( $\chi^2=8.054$ , p=0.018), belonging to joint family ( $\chi^2=44.624$ , p<0.0001) and from class IV SES ( $\chi^2=173.009$ , p<0.0001) were more prone to psychological distress.

#### Conclusions:

Prevalence of psychological distress was 23.22%, of which 97.14% had mild distress. Factors associated with psychological distress were age, male gender, joint families, occupation, unmarried marital status and low SES.

## **Main Manuscript Text:**

### **Background**

A sound mind in a sound body has been recognized as a social ideal for many centuries. Mental health is not exclusively a matter of relation between persons, but also a matter of relation of the individual towards the community where one lives in, the society and the social institutions, which guide his life, determine his way of living and the way he sees happiness, stability and security [1].

Mental health issues are more challenging among young adults because anxiety, mood or substance use disorders tend to be frequent, 75% of lifetime cases emerge by age of 24 years, most substance-misuse disorders between 19 and 21 years and mood disorders between 24 and 30 years [2]. Urbanization has led to an added effect on mental health due to the influence of factors such as overcrowded, polluted and fast paced environment [3,4].

In India, WHO estimates that the burden of mental health problems is of the tune of 2,443 DALYs per 100,000 population [5]. As per the estimates of the World Economic Forum and Harvard School of Public Health, in India the economic loss between 2012 to 2030 due to non-communicable diseases (NCDs) will be \$4.58 trillion and mental health disorders will account for 22% (\$1.03 trillion) of this loss [5,6].

Psychiatric epidemiology traditionally lags behind, because of difficulties encountered in defining a case, under reporting, sampling methodology, selecting an instrument, diagnosing, lack of resources, stigma and low priority of mental health in the health policy [7]. Very few community-based studies have been conducted in India to understand the magnitude of the problem.

Hence as a felt need, the present study was conducted among young adults in an urban community to assess their mental health status and to determine the factors affecting mental health status.

### **Methods**

This study was a community based, cross-sectional study, which was carried out in the year 2018. The study was conducted among young adults, i.e., individuals in the age group of 18-35 years [8], residing in an urban area of Darwad city located in southern part of India, which is the field practice area of Urban Health Training Centre attached to a tertiary care hospital.

The sample size calculated was 603, using the formula  $4 pq/L^2$ , where  $p$  is the prevalence of mental disorders (39.9%) [9],  $q = 1-p$  (60.1%) and  $L$  the permissible error, taken as 10% at 5% alpha error.

A house-to-house survey was carried out by doing systematic random sampling (every 5th house was considered). Only one young adult was considered from each house, as she/he was considered to be representative of the selected family. Individuals more than 18 years and less than 35 years, residing in the study area for more than one year, who consented to participate on a voluntary basis, were included in the study.

Data was collected by interviewing all 603 young adults using a pre-designed, pre-tested proforma and General Health Questionnaire-12 [10]. Tested proforma included questions on the socio-demographic profile, their monthly income and work status. The GHQ-12 was used to assess the mental health status.

GHQ is a tool for screening psychological distress and has been widely used to measure mental health status in different settings and different cultures [11]. GHQ-12 version is the most used, because of simple questions and ease of administration to the subjects [12, 13]. The GHQ-12 questionnaire asks whether the respondent has recently i.e., in the past four weeks, experienced any of the twelve listed symptoms or behaviours. Every item is rated on a four-point scale (less than usual, no more than usual, rather

more than usual, or much more than usual) and is scored on a Likert scale (0-1-2-3). The range of score is 0 to 36. A higher score indicates a greater degree of psychological distress. A score of 12 or lower indicates normal mental health status, while a score more than 12 indicates psychological distress [11, 12]. Further, as per the requirement of our study, a detailed assessment of mental health status was carried out by classifying the psychological distress indicated by the GHQ-12 score, into three categories: mild distress (13-20), moderate distress (21-28) and severe distress (29-36). The GHQ-12 questionnaire used in our study was translated into vernacular language and validated before the start of the study.

Data was collected after signing a written informed consent form on voluntary basis and confidentiality was assured. After completion of this, based upon the assessment of proforma, health education was imparted to all the study participants to motivate them, to improve their self-confidence to cope up with day-to-day activities by developing positive attitude towards life. The study was approved, and ethical clearance was obtained from Institutional Ethics Committee. Data were analysed using SPSS software version 20.0. Descriptive statistics, Chi-square test and Odds ratio (OR) was applied to find an association between two attributes and  $P < 0.05$  was considered as statistically significant.

## Results

A total of 603 young adults were included in the study. Overall male predominance 378 (62.69%) was seen as compared to females, who accounted for 225 (37.31%) of the study population. The socio-demographic characteristics of the study participants are shown in Table 1, where majority 304 (50.42%) of them belonged to 24-29 years age group, 251 (41.62%) had completed their education upto secondary level, 236 (39.14%) were students, 317 (52.57%) belonged to Class II Socioeconomic group (SES, Modified B G Prasad classification). The mean age of study participants was  $25.80 \pm 4.327$  years. A majority of study participants, 334 (55.39%) belonged to nuclear family and 351 (58.21%) were unmarried.

Table 1. Socio-demographic characteristics of the study participants.

Socio-demographic characteristics	Young adults (n = 603)		
	Males (n = 378)	Females (n = 225)	Total (n = 603)
<b>Age (in years)</b>			
18 - 23	116	80	196 (32.50%)
24 - 29	190	114	304 (50.42%)
30 - 35	72	31	103 (17.08%)
<b>Educational status</b>			
Primary school (class I to VII)	12	02	14 (2.32%)
High school (class VIII to X)	73	53	126 (20.90%)
Secondary (class XI and XII)	173	78	251 (41.62%)
Graduate and Postgraduate	120	92	212 (35.16%)
<b>Occupational status</b>			
Housewives	0	105	105 (17.41%)
Business	113	02	115 (19.07%)
Employee in service	129	18	147 (24.38%)

Student	136	100	236 (39.14%)
<b>Socio-Economic status*</b>			
Class I	12	25	37 (6.14%)
Class II	202	115	317 (52.57%)
Class III	120	69	189 (31.34%)
Class IV	39	13	52 (8.62%)
Class V	05	03	08 (1.33%)

\* As per modified B. G. Prasad socio-economic classification.

Table.2 shows the GHQ-12 scoring to assess the mental health status, where a majority 463 (76.78%) had a GHQ-12 score between 0 and 12, indicating normal mental health status. Remaining 140 (23.22%) of study participants screened positive on GHQ-12, with a score ranging between 13 to 36, indicating psychological distress. Among males 29.63% had psychological distress, as compared to 12.44% females having psychological distress. Males had a 2.96 times more odds of developing psychological distress as compared to females (OR=2.96, 95% CI=1.88-4.66, p<0.0001). The mean GHQ-12 score for males was 11.99 (SD=2.254) which was lesser than the cut off score of 12, while for females, it was even lower at 11.09 (SD=1.744).

Table 2. Distribution of young adults based on assessment of mental health status using GHQ-12 scoring.

GHQ-12 score	Psychological distress (13-36)	Normal (0-12)	Odds Ratio (95% CI)	p value
<b>Males (n=378)</b>	112 (29.63%)	266 (70.37%)	2.96 (1.88-4.66)	p<0.0001
<b>Females (n=225)</b>	28 (12.44%)	197 (87.56%)		
<b>Total (n=603)</b>	140 (23.22%)	463 (76.78%)		

When psychological distress was further graded in Table.3, among 140 study participants who were screened positive using GHQ-12, majority 136 (97.14%) had mild distress, followed by 4 (2.86%) with moderate distress. None of the study participants were suffering from severe psychological distress.

Table 3. Grading of young adults with psychological distress using GHQ-12.

Psychological distress	Males (n=112)	Females (n=28)	Total (n=140)
<b>Mild (13-20)</b>	108 (96.43%)	28 (100%)	136 (97.14%)
<b>Moderate</b>	04 (3.57%)	0	04 (2.86%)

<b>(21-28)</b>			
<b>Severe</b>	0	0	0
<b>(29-36)</b>			

Table.4 shows the association between demographic characteristics and mental health status among study participants. 52 (26.53%) of young adults in the age group 18–23 years had developed psychological distress, followed by 75 (24.67%) in the age group 24–29 years and 13 (12.62%) in the age group 30–35 years. This difference was found to be statistically significant ( $\chi^2=8.054$ , df=2, p=0.018). Among males, majority 266 (70.37%) had normal mental health status and 112 (29.63%) had psychological distress, among females majority 197 (87.56%) had normal mental health status as compared to 28 (12.44%) who had psychological distress. Overall male distress predominance was seen compared to females which was found to be statistically significant ( $\chi^2=23.366$ , df=1, p<0.0001). 96 (27.35%) young adults who were unmarried had developed psychological distress as compared to 44 (17.46%) who were married. This shows that married people were less prone to psychological distress, which was found to be statistically significant ( $\chi^2=8.048$ , df=1, p=0.005). 32 (50%) study participants who belonged to joint family had developed psychological distress as compared to 60 (29.27%) from three generation family and 48 (14.37%) from nuclear family and this difference was found to be statistically significant ( $\chi^2=44.624$ , df=2, p<0.0001).

Table 4. Comparison of socio demographic characteristics with mental health status of the study participants using GHQ-12: Part 1

<b>Socio-demographic characteristics</b>	<b>Mental health status</b>		<b><math>\chi^2</math> (df)*</b>	<b>p value</b>
	Normal (n = 463)	Psychological distress (n = 140)		
<b>Age group (years)</b>				
18 - 23	144 (73.47%)	52 (26.53%)	8.054 (2)	p=0.018
24 - 29	229 (75.33%)	75 (24.67%)		
30 - 35	90 (87.37%)	13 (12.62%)		
<b>Sex</b>				
Male	266 (70.37%)	112 (29.63%)	23.366 (1)	p<0.0001
Female	197 (87.56%)	28 (12.44%)		
<b>Marital status</b>				
Married	208 (82.54%)	44 (17.46%)	8.048 (1)	p=0.005
Unmarried	255 (72.65%)	96 (27.35%)		
<b>Type of family</b>				
Nuclear	286 (85.63%)	48 (14.37%)	44.624 (2)	p<0.0001
Joint	32 (50.00%)	32 (50.00%)		
Three generation	145 (70.73%)	60 (29.27%)		

\* Chi square test (degree of freedom)

Table.5 shows that the difference in psychological distress across occupation ( $\chi^2=17.539$ , df=3, p=0.001) and socio-economic status ( $\chi^2=173.009$ , df=4, p<0.0001) was found to be statistically significant.

Table 5. Comparison of socio demographic characteristics with mental health status of the study participants using GHQ-12: Part 2

<b>Socio-demographic characteristics</b>	<b>Mental health status</b>		$\chi^2$ (df)*	<b>p value</b>
	Normal (n = 463)	Psychological distress (n = 140)		
<b>Occupation</b>				
Housewives	93 (88.57%)	12 (11.43%)	17.539 (3)	p=0.001
Business	82 (71.30%)	33 (28.70%)		
Employee in service	100 (68.03%)	47 (31.97%)		
Student	188 (79.66%)	48 (20.34%)		
<b>Educational status</b>				
Primary school (class I to VII)	09 (64.29%)	05 (35.71%)	6.149 (3)	p=0.105
High school (class VIII to X)	89 (70.63%)	37 (29.37%)		
Secondary (class XI and XII)	193 (76.89%)	58 (23.11%)		
Graduate and Postgraduate	172 (81.13%)	40 (18.87%)		
<b>Socio economic status</b>				
Class I	29 (78.38%)	08 (21.62%)	173.009 (4)	p<0.0001
Class II	297 (93.69%)	20 (6.31%)		
Class III	125 (66.14%)	64 (33.86%)		
Class IV	09 (17.31%)	43 (82.69%)		
Class V	03 (37.50%)	05 (62.50%)		

\* Chi square test (degree of freedom)

In our study, among males, 91 (24.07%) of them consumed alcohol and 80 (21.16%) were addicted to tobacco, either smoking or in chewing form. None of the female study participants had any type of habits. Out of the 91 young adults who consumed alcohol, 36 (39.56%) of them developed psychological distress and among 80 young adults who were addicted to tobacco, 28 (35.00%) of them developed psychological distress.

### Discussion

In our study when GHQ-12 was administered to assess the mental health status, it was found that among 603 young adults, 140 (23.22%) screened positive on GHQ-12, with scores between 13 and 36, indicating psychological distress.

In a study done in an urban slum in Chennai city, it was noted that the prevalence of psychiatric morbidity among 18-30 years age group was 16.1%, which is less compared to that of our study [14]. In a similar study done in an urban community of Western Nigeria, the prevalence of psychological distress as per GHQ-12, among 20-39 years age group, was found to be 18.1% [15]. Compared to other studies psychological distress was more among our study participants, because majority of the participants were college going students pursuing basic and higher education, leading to continuous stress and strain because of their academic activities and pressure of their fulfilment on time. In contrast to another study done among medical students in New Delhi, the prevalence of psychological distress was found to be 39.7% [16]. This could be attributed to the fact that medical students are under continuous pressure because of academics as well as patient care.

The mean GHQ-12 score for males in our study was 11.99 (SD=2.254), which was below the cut off value of 12. In comparison to men, women had slightly lower mean GHQ-12 score of 11.65 (SD=2.121). A study conducted in Himachal Pradesh showed similar results, with the mean GHQ-12 score for males being 11.81 and for females being 9.35 [17]. Similar results were also observed in a study conducted among college students in Malaysia, where the GHQ-12 mental health evaluation revealed that males had a higher mean GHQ-12 score as compared to females [18].

In our study, on subsequent grading of 140 young adults who screened positive for psychological distress, it was observed that, a majority 136 (97.14%) had mild distress, followed by 4 (2.86%) with moderate distress. Not a single participant in the study was experiencing severe psychological distress. This demonstrates that most of the psychological distress can be identified early enough to be prevented, with the help of screening, and treatment can begin at the earliest to avoid further progression.

In our study it was observed that the risk of developing psychological distress reduced with age and was found to be statistically significant. This shows that stress levels decline with age due to an increase in one's capacity to handle day-to-day activities. The results of our study showed that married individuals were less likely to experience psychological distress, as compared to other groups, which was statistically significant ( $p=0.005$ ). This could be attributed to the fact that married individuals have better support from their spouse and family members, as they share work and responsibilities, which in turn reduces stress. A similar study conducted in an urban community in Western Nigeria found that 30.8% of participants who were widowed/separated, experienced psychological distress, as compared to 22.4% who were single and 14.8% who were married, and the difference was statistically significant ( $p=0.017$ ) [15]. In our study, individuals belonging to joint families experienced psychological distress more frequently than those in other family types. This maybe due to lack of privacy and freedom, strict rules and generation gap seen in joint families. In another study conducted in New Delhi, the findings were in contrast to our study, where 40.6% belonging to nuclear family had psychological distress as compared to 37.5% belonging to joint family and the difference was not statistically significant ( $p=0.790$ ) [16].

In our study, participants involved in business and service had increased psychological distress due to job pressure and commitments, as compared to other groups and this difference was statistically significant ( $p=0.001$ ). In our study the educational attainment was inversely proportional to psychological distress, indicating that education plays a vital role in handling stressful situations. However, this finding was not statistically significant ( $p=0.105$ ). A similar study conducted in an urban community in Western Nigeria found that 27.1% of illiterates had psychological distress on GHQ-12, followed by 22% of secondary level educated and 15.7% of

tertiary level educated individuals. It was found that psychological distress decreased as the education attainment level increased and the difference was statistically significant ( $p=0.013$ ) [15]. Our study also demonstrates that individuals belonging to low socioeconomic status are more prone to experience psychological distress ( $p<0.0001$ ), since they are unable to fulfil basic needs and demands of daily life and are continuously struggling to make ends meet.

### **Conclusions**

Prevalence of psychological distress was 23.22%, of which 97.14% had mild distress. Factors associated with psychological distress were age, male gender, joint families, labourers, unmarried marital status and low SES. To conclude majority of predisposing factors of psychological distress can be prevented by creating awareness and health education.

Based on the findings of our study, the following suggestions are put forth for improving the mental health status of young adults. The high prevalence of psychological distress in our study group shows that mental health issues are widespread, leading to a silent epidemic and cannot be neglected. The mental health aspect should receive more attention from the health care services. Screening for mental health issues play an important role, since it can assist in implementing appropriate intervention strategies. Proactive measures should be implemented to educate and raise awareness among medical and paramedical personnel regarding the importance of screening and evaluating mental health status at all levels of the health care system. Information, Education and Communication (IEC) activities must be developed at community level to sensitize the vulnerable population for seeking immediate mental health care, as and when the symptoms arise. Sessions of health education must be held at workplace and educational institutions. Relaxation methods that assist in reducing day-to-day stress, such as engaging in outdoor sports, pursuing hobbies, yoga and meditation, should be used in educational institutions, workplaces and also at household level.

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