pISSN 2394-6032 | eISSN 2394-6040

# **Original Research Article**

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20191419

# Common mental disorders among women of reproductive age group in an urban area in Bengaluru

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**Received:** 11 February 2019 **Accepted:** 12 March 2019

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# **ABSTRACT**

**Background:** Common mental disorders are commonly encountered in community settings, especially in women. The somatic symptoms often lead to repeated visits to health care practitioners without resolution of the problem. The knowledge of magnitude of common mental disorders and their associated factors has proved useful in psychiatric epidemiological research.

**Methods:** A community based cross-sectional study was carried out among 480 randomly selected women in the reproductive age group using self-reporting questionnaire (SRQ-20), a validated tool developed by World Health Organisation. A standard cut-off score of 7 was used to identify women with common mental disorder. Data was analysed using descriptive statistics and suitable tests of significance in statistical package for social sciences (SPSS) v. 21.0.

**Results:** The prevalence of common mental disorder was found to be 33.5% in the present study. Analysis showed that various socio-demographic characteristics of women like lower educational levels of women, widowed women, and women belonging to lower socio-economic class, belonging to joint family, lower body mass index had statistically significant association with common mental disorders.

**Conclusions:** This study revealed that the prevalence of common mental disorders was high (33.5%) among the women of reproductive age group and there existed statistically significant association between common mental disorders and various socio demographic determinants.

Keywords: Common mental disorders, Women of reproductive age group, Urban area, Bengaluru

## **INTRODUCTION**

Mental health problems constitute a wide spectrum ranging from subclinical states to very severe forms of disorders. Most of the psychiatric epidemiological studies have ignored these subclinical states, because of the difficulty in defining and identifying the case. These are the cases presenting to primary health care with nonspecific somatic symptoms with no apparent physical cause and are often prescribed various symptomatic medications, such as pain killers, iron supplements or vitamins, since the primary care physician may not be

able to diagnose the underlying common mental disorders (CMDs).<sup>2</sup> Studies have shown that the prevalence of such disorders exceeds 30% in adults attending general medical outpatient in India and other developing countries.<sup>3</sup>

CMDs include depression, anxiety and somatisation (medically unexplained somatic symptoms such as headaches and backache). They are the non-psychotic affective disorders and are classified as separate diagnostic category in the International Classification of Diseases 10<sup>th</sup> Revision (ICD-10) as 'neurotic, stress-related and somatoform disorders'. 5

Women are at a greater risk of common mental disorders. Various bio-psycho-social factors increase the vulnerability of women to poor mental health. There are multiple points of intersection between mental health and reproductive health: from puberty to menopause and the mental health effects of violence, including sexual violence. The second results of the second results

Most of the studies on common mental disorders were done in hospital settings, which makes it difficult to obtain realistic estimate of the burden of common mental disorders in the community. Hence, this community-based study was undertaken among women of reproductive age group, with the objective to assess the prevalence of common mental disorders and its associated factors in an urban area in Bengaluru.

#### **METHODS**

A community based cross-sectional study was carried out in an urban locality, Channasandra colony, with a total population of 5711 in 1423 households. Channasandra colony belongs to urban field practice area of Rajarajeswari Medical College and Hospital. The study was carried out for one year (from January 2015 to January 2016). All women of reproductive age group residing in Channasandra colony for the past 6 months were included in the study. Those who were not willing to participate in the study were excluded.

The sample size was calculated using the prevalence of common mental disorders among women of reproductive age group, 27.27%, observed in an Indian study conducted by Tawar et al in 2014. Considering an allowable error of 15% and a confidence interval of 95%, sample size of 474.2 was obtained which was rounded off to 480 women. The study subjects were selected using simple random sampling as shown in the flowchart (Figure 1).

The questionnaire was administered to all study participants by interview method during house to house visit after obtaining written informed consent. The questionnaire was administered as a personal interview at a convenient place in the house for active participation of the women in the study. At the end, height and weight were measured. Height in centimetres and weight in kilograms were measured by the investigator as per World Health Organisation guidelines on anthropometric measurements and body mass index (BMI) was calculated. 12,13

Women who were found to higher scores (>7) in SRQ 20 were referred to Rajarajeswari Medical College and Hospital for specialist care.

Ethical clearance was obtained before conducting the study from the institutional ethical committee of Rajarajeswari Medical College and Hospital, Bengaluru.

Total number of women in the reproductive age group (15 -49 years) residing in Channasandra colony - 1267



All eligible women were enlisted (1218)
[excuding 51 women who were residing for <6
months]



480 random numbers were generated using Microsoft excel and a final list of 480 randomly selected women was made.

[9 women refused to give consent for the study, in these situations next house with eligible women was visited]



Semi-structured questionnaire was administered and height and weight were recorded

Figure 1: Sampling methodology.

The study tool used was a pretested, semi-structured questionnaire. It includes the socio-demographic details of study participants and SRQ20. Self-reporting questionnaire of 20 questions was developed by World Health Organisation as a screening tool. The questionnaire is used to screen patients for CMD in primary care settings. SRQ 20 is an instrument with proven reliability and validity, and can be used with minimal training. It has 20 closed ended questions with a reference period of the preceding 30 days.

All the data collected was compiled and entered into a Microsoft Excel worksheet and analysed using SPSS software v.21.0. A standard cut-off score of 7 was used to identify women with common mental disorder. Descriptive statistics and suitable tests of significance like Chi-square test were used as required.

# **RESULTS**

In this study, the mean SRQ 20 score was 4.1 with standard deviation of 3.7. The minimum score was 0 and the maximum score was 13. Taking the standard cut off score of 7, it was found that the prevalence of CMD was 33.5%.

The mean age of women in this study was 29.5 years with standard deviation of 8.4 years. Minimum age was 15 years and maximum age was 48 years. 139 (29.0%)

belonged to the age group 20-24 years age group, 116 (24.2%) belonged to the age group 25–29 years, 5 (1.0%) belonged to age group of 40-44 years (Table 1).

Table 1: Distribution of study participants according to socio-demographic characteristics (n=480).

Variable	Total number	Percentage					
Age (in years)							
15–19	24	5.0					
20–24	139	29.0					
25–29	116	24.2					
30–34	86	17.9					
35–39	50	10.4					
40 –44	5	1.0					
45–49	60	12.5					
Marital status*							
Single	39	8.1					
Married	431	89.8					
Widow	10	2.1					
Religion**							
Hindus	451	93.9					
Muslims	19	3.9					
Christians	10	2.2					
Education							
Illiterate	113	23.5					
Primary school	20	4.2					
Middle School	47	9.8					
High School	126	26.3					
Diploma	99	20.6					
/intermediate							
Graduation	75	15.6					
Occupation							
Home maker	319	66.4					
Semi-skilled worker	76	15.8					
Skilled worker	58	12.1					
Clerical	9	1.9					
Semi professional	9	1.9					
Professional	9	1.9					
Socio economic class***							
Upper middle class	113	23.5					
Lower middle class	253	52.7					
Upper lower class	114	23.8					

<sup>\*</sup>None of the women belonged to 'divorced' or 'separated' category.

Among the 480 study participants, majority 431 (89.8%) were married, 39 (8.1%) were single and 10 (2.1%) were widowed. A wide majority, 451 (93.9%) of the study participants belonged to the Hindu religion, 19 (3.9%) were Muslims and 10 (2.1%) were Christians.

Majority of the study participants 367 (76.5%) were literates and 113 (23.5%) were not literate, 126 (26.3%)

had studied up to high school, 99 (20.6%) had studied up to diploma, 75 (15.0%) were graduates and 47 (9.8%) and 20 (4.2%) had studied till middle school and primary school respectively.

Out of the total 480 study participants, most of them 319 (66.5%) were home-makers, 76 (15.8%) of them were semiskilled workers, 58 (12.1%) were skilled workers, 15 (1.9%) belonged clerical, semi-professional and professional workers each. There were no unskilled workers.

Most of the study participants, 253 (52.7%) belonged to the lower middle class, 114 (23.8%) belonged to the upper middle class and 113 (23.5%) belonged to upper lower class, as per modified Kuppuswamy's socioeconomic status classification—2014. None of the women belonged to upper class and lower class.

Among 480 women, 42.1% were obese, 36.3% were overweight, 11.9% were of normal weight and 9.8% were underweight according to WHO BMI classification for Asians.

In univariate analysis, p values less than 0.05 were considered as statistically significant. The association between SRQ 20 scores and the age of the women (p<0.05), the marital status (p=0.005), education (p<0.05), occupation (p=0.022), socio-economic status (p<0.05) and type of family (p=0.002) were found to be statistically significant.

It was observed that 66.7 % of women in the age group of 15 to 19 years and 60% of women in the age group of 45 to 49 years of age had SRQ scores of ≥7. In the age group of 20 to 24 years, 15.8% of women had SRQ scores≥7 (Figure 2).

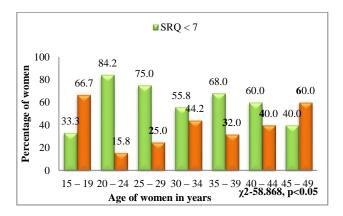


Figure 2: Distribution of women according to age and SRQ scores.

In the present study, it was found that 80.0% of widows, 37.9% of illiterate women, 43.4% of semi-skilled workers, 40.3% of women belonging to lower middle class and 40.5% of joint family had high SRQ scores. There was no statistically significant association between religion and SRQ scores (Table 2).

<sup>\*\*</sup>None of the women belonged to 'other religions' category.

<sup>\*\*\*</sup>None of the women belonged to 'upper class' and 'lower class' according modified Kuppuswamy's classification.

Table 2: Univariate analysis to find out association between socio-demographic characteristics and self-reporting questionnaire score (n=480).

S. no	Variables	SRQ Scores <7 n=319 (%)	≥7 n=161 (%)	Total (%)	Chi square statistic and p-value	
1	Marital status				10.000	
	Single	29 (74.4)	10 (25.6)	39 (100.0)	10.800	
	Married	288 (66.8)	143 (33.2)	431 (100.0)	0.005	
	Widow	2 (20.0)	8 (80.0)	10 (100.0)		
2	Religion			2 000		
	Hindu	302 (67.0)	149 (33.3)	451 (100.0)	3.980	
	Muslim	9 (47.4)	10 (52.6)	19 (100.0)	0.137	
	Christian	8 (80.0)	2 (20.0)	10 (100.0)		
	Education of women					
	Illiterate	37 (32.7)	76 (37.9)	113 (100.0)	92.609	
	Primary school	15 (75.0)	5 (25.0)	20 (100.0)		
3	Middle school	37 (78.7)	10 (21.3)	47 (100.0)		
	High school	82 (65.1)	44 (34.9)	126 (100.0)		
	Diploma/intermediate	78 (78.8)	21 (21.2)	99 (100.0)		
	Graduate	70 (93.3)	5 (6.7)	75 (100.0)		
4	Occupation of women					
	Home maker	207 (64.9)	112 (35.1)	319 (100.0)		
	Semi-skilled worker	43 (56.6)	33 (43.4)	76 (100.0)	0.022	
	Skilled worker	49 (84.5)	9 (15.5)	58 (100.0)		
	Clerical	7 (77.8)	2 (22.2)	9 (100.0)		
	Semi professional	6 (66.7)	3 (33.3)	9 (100.0)		
	Professional	7 (77.8)	2 (22.2)	9 (100.0)		
5	Socio economic class				20,690	
	Upper middle class	99 (87.6)	14 (12.4)	113 (100.0)	29.689	
	Lower middle class	151 (59.7)	102 (40.3)	253 (100.0)	<0.05	
	Upper lower class	69 (60.5)	45 (39.5)	114 (100.0)		
6	Type of family				12.054	
	Nuclear family	218 (64.7)	119 (35.3)	337 (100.0)	12.854	
	Joint family	50 (59.5)	34 (40.5)	84 (100.0)	0.002	
	Three generation family	51 (86.4)	8 (13.6)	59 (100.0)		

The association between SRQ 20 scores and BMI (p=0.02) were found to be statistically significant. 44.1% of underweight women had high SRQ scores (Figure 3).

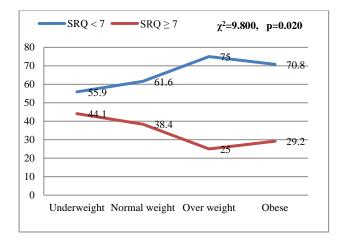


Figure 3: Distribution of study participants according to SRQ scores and BMI.

## **DISCUSSION**

In this study, it was observed that out of the total 480 study participants, 161 study participants i.e., 33.5 % had CMDs according SRQ scores. This observation was similar to a study done on CMD among women in conducted by Tawar et al which showed a prevalence of 27.27% of the women in the reproductive age group using self-reporting questionnaire scores.<sup>9</sup>

This observation was found to be consistent with the observations of many other studies done in the country. Prevalence of CMDs in primary care settings has varied from about 11-34.6% in different Indian studies. Reasons for this wide variation in prevalence could be due to differences in the inclusion criteria. The median prevalence rates of common mental disorders varied from 20% to 30% globally. 5

The study found higher risk of CMDs in younger age group (15 to 18 years). This is similar to study by Karim

et al using SRQ in Bangladesh and a study by World health Organization. <sup>15,16</sup>

Marital status and high SRQ scores (CMDs) were significantly associated, and 80.0% of widowed women had high SRQ scores compared to 33.2% of currently married and 25.6% of single women who had higher SRQ scores. This finding is similar to the study by Patel et al in India which showed that the widowed, divorced and separated women have more risk of CMDs than married women. Also, another study by Patel et al showed similar results. The reason for the finding might be due to the financial difficulties, increased responsibilities and social stigma faced by widowed women in the Indian society. Apart from the stress of losing the spouse, widowed women are forced to take-up the responsibility of the family.

There was no statistically significant association between religion and high SRQ scores (CMDs). This is similar to the findings of a community-based study conducted by Panigrahi et al, Shidhaye et al, Patel et al. <sup>18-20</sup>

The present study had high literacy status 76.5% among the study participants. These findings are comparable to DLHS-4 findings.<sup>21</sup> There was a statistically significant association between the educational status of the women and the high SRQ scores (CMDs). Various studies by Shidhaye, Patel et al, a systematic review in low and middle income countries found similar results.<sup>5,20,22</sup>

In this study, majority, 66.5% of the women were home-makers. There was a significant association between occupation of women and CMDs. This is comparable to the findings of the studies by Patel et al in India and Robert et al in low and middle income countries, Faisal et al in Brazil which found low occupational status to be associated with mental disorders. <sup>18,22,23</sup>

There was a statistically significant association between socio-economic class and CMDs in this study. Women belonging to lower-middle class were more likely to have high SRQ scores when compared to upper-middle class. Similar findings were seen in various epidemiological studies by Patel et al, Shidhaye et al in India, and by McManus, Wildmam and Weich. 18,20,24-26 The probable reason for this finding in the present study might be due financial constraints and influence of various psychosocial factors associated with lower socio-economic factors.

It was found that among the total 480 study participants, 70.2% belonged to nuclear family, and 17.5% to Joint family and 12.3% belonged to three-generation family. There was a statistically significant association between type of family and CMDs. It was observed that women belonging to joint family and nuclear family were more likely to have CMDs as compared to women belonging to three-generation family. In contrast, findings of study by Patil M, Malhotra, which showed women belonging to

nuclear were more likely to have mental illness. Study conducted by Panigrahi et al showed no association between family type and CMDs. 19,27,28

There was significant association with BMI and common mental disorders on univariate analysis. Similar association was seen in a study by Shidhaye et al.<sup>20</sup>

As evidenced from this study, the magnitude of common mental disorders is high among women of reproductive age group. Hence identifying them at earliest possible time will enable them to receive appropriate care. Screening tools like Self-reporting questionnaire can be used at primary health care level, which are easy to administer and require minimal training to use.

## **ACKNOWLEDGEMENTS**

I thank the study subjects who participated in the study and provided the information. It would not have been possible to complete my study without their support, cooperation and participation.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

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Cite this article as: Sathyanarayana RK, Manjunatha S. Common mental disorders among women of reproductive age group in an urban area in Bengaluru. Int J Community Med Public Health 2019;6: 1768-73.