Short Communication

Epidemiological Correlates of Psychological Distress in a Rural Community of South India: A Cross-sectional Study

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Abstract

Context: Integration of mental health into primary care is essential to establish access to mental health services. Screening the community for psychological distress is the first step. **Aims:** The aim of the study was to estimate the burden and the determinants of psychological distress in a rural community. **Settings and Design:** This was a community-based cross-sectional study among adult members of a rural community of Nitte Village in Udupi district in Karnataka, South India. **Methodology:** Three hundred and ten households were surveyed using the World Health Organization Self-Reported Questionnaire (SRQ). A cutoff value of 8 in SRQ was taken as screening positive. **Statistical Analysis Used:** Descriptive data were analyzed in proportions, whereas Chi-square test and regression analysis were used to explore associations. **Results:** Hypertension and diabetes were the two common comorbidities. The prevalence of psychological distress was 42.4 per thousand. "Being easily tired" and "feeling tired all the time" were the two most common responses out of the SRQ checklist. Distress was significantly associated with gender, educational status, and marital status. **Conclusions:** The prevalence of psychological distress was 42.4 per thousand, and somatic complaints were common presentations of distress in the study population.

Keywords: Psychological distress, SRQ 20, rural

Introduction

The World Health Organization (WHO) in 1948 defined health as "A state of complete physical, mental, and social well-being and not merely an absence of disease or infirmity."[1] It defined mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life and is able to make a contribution to his or her community."[2] There is a great public health significance for mental and behavioral disorders since they are among the most important causes of morbidity and burden in primary care and the lead to disability in affected individuals, loss of resources, and productivity.[3]

Psychological distress has been defined as a state of emotional suffering with predominant symptoms of depression and anxiety.[4] The assessment of psychological distress is done using standardized self-administered or interviewer-administered scales such as General Health Questionnaire, Primary Health Questionnaire, Self- Reporting Questionnaire (SRQ), and Kessler scales.[5] Screening for psychological distress can be an essential first step in planning of community mental health services.

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One of the barriers to provision of mental health services is availability of minimal resources to care for those suffering from mental disorders. This "treatment gap" can be best addressed by "decentralization of mental health services" as advocated by the WHO. The promotion of mental health forms one of the components of "Primary Health Care," and primary care for mental health must be coordinated with a network of existing or new services as required at different levels.[6]

Methodology

A cross-sectional community-based survey was done from 2012 to 2013 in the village of Nitte of Udupi district with the help of medico social and psychiatric social workers of the

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psychiatry department that provides community mental health services at the Nitte Community Health center. The population statistics of the village and the village map was obtained from the village panchayat. The village has been divided into eight wards (I to VIII) and three divisions (Nitte A, B, and C) for electoral and administrative purposes. The sample size was calculated to be 784 with the earlier known prevalence of common mental disorders at 2%[7] and an absolute error of 1%. Taking a nonresponse rate of 20%, a total of 940 persons were to be contacted. With the average number of adult members per household taken as three, the number of households surveyed in the present study was taken as 310. Systematic random sampling was done, and the sampling interval was calculated to be 8.

All adults belonging to 18–65 years' age group were included, excluding those with severe psychiatric and medical history who could not provide a reliable and adequate history. After obtaining approval from the institutional ethical committee, we conducted a door-to-door inquiry of each household as a unit for sociodemographic details and of each individual adult member of the family for screening. The details of the head of the family were obtained, and socioeconomic status was assessed by Udai Pareek Scale.[8] They were screened with the help of psychiatry social worker who is adequately trained on the WHO Self-Reporting Questionnaire (SRQ) after obtaining informed consent. SRQ is an instrument to screen for psychiatric disturbance in primary health-care settings, especially in developing countries.[9] A cutoff value of 8 in SRQ was taken as screening positive. A score of 8 has shown a sensitivity of 79%, specificity of 96%, positive predictive value of 75%, negative predictive value of 97%, and maximum (93.6%) cases were screened.[10] Cross verification of the data was done by the principal investigator.

Descriptive data were analyzed in percentages and proportions, whereas the associations were analyzed using appropriate tests of significance.

Results

A majority of the study population of 492 participants (52.2%) belonged to class 3 socioeconomic status. The study population was equally distributed among the various age groups ranging from 18 to 65 years and gender – males (424, 45%) and females (519, 55%). Majority of the population (792, 84%) belonged to Hindu religion, were married and staying with their spouses (590, 62.6%), and were unemployed (423, 44.9%) (which also included the homemakers and the students). Most were educated up to middle school (210, 22.3%), 88 (9.3%) were illiterate, and majority (424, 45%) had no individual source of income [Table 1]. The most common physical co-morbidity was Diabetes mellitus and Hypertension [Figure 1].

Of the 943 participants surveyed, psychological distress was present in forty with a prevalence of 42.4 per thousand. The most common individual item answered positive in the SRQ

Table 1: Distribution of study population according to sociodemographic characteristics and the determinants of psychological distress (*n*=943)

	Psychological distress		*P*
	Yes, *n* (%)	No, *n* (%)	
SE status			
Class 2	4 (4.7)	82 (95.3)	0.833
Class 3	19 (3.9)	473 (96.1)	
Class 4	17 (4.7)	348 (95.3)	
Religion			
Hindu	34 (4.3)	758 (95.7)	0.405
Muslim	2 (2.2)	89 (97.8)	
Christian	4 (6.7)	56 (93.3)	
Age			
18-25	4 (2.1)	188 (97.9)	0.209
26-35	5 (2.8)	175 (97.2)	
36-45	9 (4.7)	183 (95.3)	
46-55	13 (6.4)	191 (93.6)	
56-65	9 (5.1)	166 (94.9)	
Gender			
Male	10 (2.4)	414 (97.6)	0.04*
Female	30 (5.8)	489 (94.2)	
Marital status			
Unmarried	3 (1.3)	220 (98.7)	0.000*
Married but staying separate	1 (14.3)	6 (85.7)	
Divorced	2 (100.0)	0	
Widow/widower	7 (5.8)	114 (94.2)	
Married and staying together	27 (4.6)	563 (95.4)	
Occupation			
Unemployed	17 (4.0)	406 (96.0)	0.287
Unskilled worker	12 (6.5)	174 (93.5)	
Semiskilled worker	1 (1.1)	94 (98.9)	
Skilled worker	2 (2.1)	93 (97.9)	
Clerical, shop owner, farmer	7 (5.9)	111 (94.1)	
Semiprofessional	1 (7.1)	13 (92.9)	
Professional	0	12 (100.0)	
Education			
Illiterate	11 (12.5)	77 (87.5)	0.000*
Primary school certificate	12 (8.0)	138 (92.0)	
Middle school certificate	8 (3.8)	202 (96.2)	
High school certificate	5 (2.4)	203 (97.6)	
Intermediate, post high school	1 (.5)	205 (99.5)	
Graduate or postgraduate	3 (7.7)	36 (92.3)	
Professional or honors	0	42 (100.0)	
Individual monthly income (Rs.)			
>20,000	0	12 (100.0)	0.152
10,000-20,000	1 (2.6)	37 (97.4)	
5000-10,000	3 (2.3)	129 (97.7)	
1000-5000	6 (2.8)	209 (97.2)	
<1000	10 (8.2)	112 (91.8)	
None	20 (4.7)	404 (95.3)	
Physical morbidity			
Absent	21 (3.6)	558 (96.4)	0.174
1 morbidity	14 (4.6)	293 (95.4)	
>1 morbidity	5 (8.8)	52 (91.2)	
Tobacco			

Contd...

Table 1: Contd...

	Psychological distress		*P*
	Yes, *n* (%)	No, *n* (%)	
Yes	9 (4.8)	179 (95.2)	0.402
No	31 (4.1)	724 (95.9)	
Alcohol consumption			
Yes	5 (12.5)	117 (95.9)	0.583
No	35 (4.3)	786 (95.7)	

**P* value statistically significant, SE: Socioeconomic

was "being easily tired" (332, 35.3%) and "feeling tired all the time" (266, 28.3%). The least commonly checked items were "the thought of ending one's life" (3.1%) and "feeling of being a worthless person" (4.1%).

There was a significant association of gender with psychological distress ($X^2 = 6.727$, $P = 0.009$) (odds ratio [OR] females: males = 2.5), and the proportion of psychological distress among females (5.8%) was twice compared to males (2.4%). A highly significant association between marital status and psychological distress was also seen ($X^2 = 52.367$, $P = 0.000$) (OR married and separate: married and together = 3.47). Illiterates had the highest prevalence (12.5%), followed by those educated up to primary school (8%). This association of education with psychological distress was highly significant ($X^2 = 31.977$, $P = 0.000$) (OR of illiterate + primary: others = 4.3) [Table 1]. However, illiterates and married but staying separate/divorced were the only two groups that were found to have higher adjusted odds of psychological distress (20.007 and 6.617, respectively) on multinomial logistic regression analysis with bootstrapping [Table 2].

Females scored significantly higher in SRQ with higher mean SRQ rank value (508.42) compared to males (424). As the age progressed, median SRQ scores and mean SRQ rank values increased showing a significant positive correlation between SRQ score and age (Spearman's rho = 0.323, $P = 0.000$). The highest mean rank SRQ was seen in divorced persons (940.5), whereas it was least in unmarried individuals (347.76) with a significant association between marital status and SRQ score.

Discussion

Our study found the percentage of psychological distress to be 40 per thousand (4%). Drapeau *et al.*[4] stated that it is difficult to pinpoint the prevalence of psychological distress and to compare the rates in different community surveys due to the differences in the scales assessing distress, of the time windows used in the documentation of symptoms and of the cut points applied to dichotomize and identify individuals with pathological distress. The prevalence rates range from 5% to 10% in the general population according to various studies in different settings,[11-13] but it can be higher in population groups with exposure to some risk factors such as workers employed in stressful work conditions and immigrants. The prevalence is lower in the present study, and this could be because it is a rural, well-knit community with predominantly

Table 2: Determinants of psychological distress in multinomial logistic regression analysis

Psychological distress	Adjusted odds (95% CI)	*P*
Gender		
Female	1.852 (0.877-3.911)	0.106
Male	Reference group	
Marital status		
Unmarried	0.563 (0.159-1.990)	0.373
Married but staying separate/divorced	6.617 (1.459-29.996)	0.014*
Widowed	0.708 (0.287-1.743)	0.452
Married and staying together	Reference group	
Education		
Illiterate	20.007 (1.7-247.2)	0.019*
Primary school	5.835 (0.4-72.1)	0.169
Middle school	1.881 (0.15-24.1)	0.627
High school	1.627 (0.13-21.2)	0.710
Intermediate, posthigh school	1.169 (0.08-16.2)	0.907
Graduate or postgraduate	6.564 (0.47-92.7)	0.164
Professional or honors	Reference group	

**P* value statistically significant. CI: Confidence interval

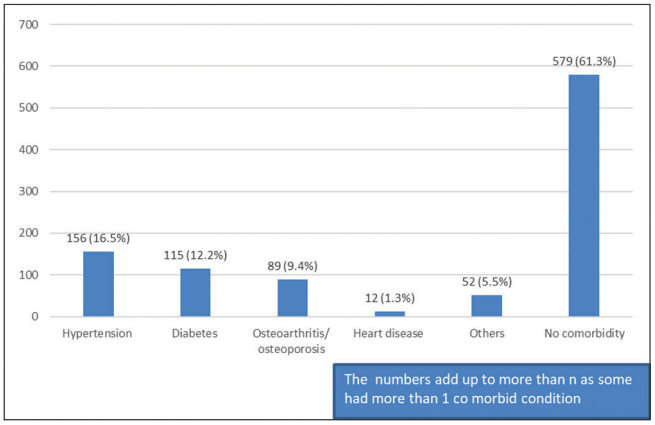

Figure 1: Distribution of study population according to physical comorbidity ($n = 943$)

joint or extended families, income equity and sufficient education (colleges, anganwadis, and schools), and livelihood opportunities (cottage industries) as well as good access to health to the population (health centers).

In the present study, there was a significant association of gender with psychological distress and higher SRQ scores. Similar to this, the prevalence of psychological distress is higher in women than in men in most countries as seen in earlier studies.[12,14] A study among men and women in Goa, India,[15] found that moderate and high scores of psychological distress were detected in significantly more women than men.

The present study found marital status to be a determinant for distress. Those who were married but separated or divorced had a significantly higher adjusted odds ratio of distress compared to those who are married and staying together. However, we did not find significantly higher rates of distress among the

widowed. Earlier studies[14,16] have shown that those who are married have lower rates and those who are widowed or divorced have higher rates of distress.

We found a highly significant association of education and distress similar to other studies.[14,17] As pointed out in these studies, education either directly or indirectly influences levels of distress – having limited income or education may make one more vulnerable to social problems with distress.

Conclusions

The prevalence of psychological distress in the current study was low, and somatic complaints were common presentations of psychological distress in the study population. Psychological distress was significantly more common in women, married but staying separate/divorced and illiterates.

Recommendations

This study highlights the need for further studies to explore the feasibility of providing training for developing skills among health workers with emphasis on detection of somatic complaints as indicator of psychological distress among the vulnerable groups. Interpretation of these symptoms has to be done based on specific cultural context, and we recommend further studies to validate the same.

Limitations

The SRQ instrument checks distress based on questions on the participant's experiences for the past 1 month only. Some studies have also shown a gender difference in the ideal cutoff scores for SRQ 20 which has not been addressed in the current study.[18]

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Conflicts of interest

There are no conflicts of interest.

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