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Original Article

Mental health status of workers in selected tea estates, Tamil Nadu, India

Abstract:

Introduction: The prevalence of mental illnesses among industrial workers ranged between 14% - 51%, which is more than that of the general population. Individual's psychosocial functioning has an impact on the work efficiency and hence the current study was undertaken to screen workers in tea plantations. **Objective:** To document the prevalence of probable mental illness and its associated factors among workers in selected tea estates in South India. **Methodology:** A cross sectional study was done in two tea estates in Tamil Nadu from March to May 2012. The General Health Questionnaire (GHQ) 28 was used to screen for mental health status. Socio-demographic details, work profile and associated risk factors were also documented. **Results:** Among the 400 subjects interviewed, 75.5% were females. The mean age was 43.21 (±7.47) years and the mean work experience was 21.38 (±9.31) years. In this study 12.8% subjects screened positive for probable mental illness and 1%, 1%, 0.2% and 1.5% screened positive for the domains of somatic symptoms, anxiety/insomnia, social dysfunction and severe depression respectively. Workers who screened positive for probable mental illness had availed significantly greater duration of leave in the previous year. There was no significant association of mental illness with age, gender, marital status, substance abuse, designation, co-morbidity and stressful life events. **Conclusion:** The prevalence of probable mental illness was similar to other occupational settings. Management of the associated risk factors may improve one's work efficiency and productivity.

Key Words: Mental health status, tea estate, South India, GHQ 28.

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Introduction

Mental illnesses are becoming increasingly common and are a growing global health concern. According to the estimates, by 2020 DALYs loss due to mental disorders are expected to represent 15% of the global burden of diseases [1].

Mental illnesses are one of the leading causes of morbidity in India, affecting different age groups and distributed over different geographic area, socio-cultural background [2, 3]. In India, the prevalence of mental disorders ranges from 1.8% - 20.7%. The burden of mental disorders is maximal among young adults, who are the most productive section of the population [1].

Studies in the past have revealed that the prevalence of mental illness among industrial workers ranges from about 14% - 51%, which is more than that in the general population [4-6]. Psychiatric disorders constitute one of the leading occupational health problems, with one-third of all workers reporting adverse psychological effects.[7]

Since an individual's psychosocial functioning has an impact on work, there is a need to screen workers in different settings for mental illnesses [8]. In light of the above observation, this study was undertaken to screen workers in tea plantation setting in South India for probable prevalence of mental illnesses and their associated factors. Limited number of studies has been conducted among tea plantation workers and their mental illness.

OBJECTIVES

To assess the prevalence of probable mental illnesses among workers in two selected tea estates in South India

To study the factors associated with probable mental illness among these workers.

Methods

A cross-sectional study was conducted from March to May 2012 in two selected tea estates located at the Anamalai, Tamil Nadu, South India. All permanent workers between the age group of 18 – 60 years from both the estate were included in the study. Workers who could not be contacted after two visits were excluded from the study population. Ethical clearance for this study was obtained from the institutional ethical board.

An interview schedule was developed which included socio-demographic details, work profile and other possible associated risk factors. Data regarding the number of leaves availed in the last one year by the workers was also obtained from the records maintained in the estate office. The General Health Questionnaire 28 (GHQ 28) was used to screen for probable mental illness. GHQ28 has 28 item and was devised by Goldberg, licensed to GL Institute and has been validated in India. Permission was obtained to use the GHQ28 from GL Institute. This tool is used to screen an individual with a probable mental illness. It has four domains namely: somatic symptoms, anxiety/insomnia, social dysfunction and severe depression. Each question is scored as 0 and 1. A total score of ≥ 6 and/or a total score of ≥ 5 in any one of the four domains are considered to be positive. A survey team was formed, who were briefed and trained to administer the pretested interview schedule including the Tamil version of GHQ 28. After obtaining written consent from the participants, the schedule was administered to the workers. Data was entered into Microsoft Excel and analyzed for measures of central tendency, proportions and chi-square test using SPSS 16.

Results

Of the 400 workers interviewed, 302 (75.5%) were females. The mean age of the study subjects was 43.21 years (± 7.47years). Majority of them, 368 (92%) of them belonged to middle socio economic class as per Standard of Living Index. The socio-demographic profile of the study population is shown in Table1.

Table1: Socio-demographic profile of the study population

Variables		Male	Female	Total
Age (years)	21-30	6(6.1%)	13(4.3%)	19(4.8%)
	31-40	17(17.3%)	115(38.1%)	132(33%)
	41-50	46(46.9%)	133(44%)	179(44.8%)
	51-60	29(29.6%)	41(13.6%)	70(17.5%)
Education	Illiterate	5(5.1%)	102(33.8%)	107(26.8%)
	<7th Standard	30(30.6%)	71(23.5%)	101(25.2%)
	7-10th Standard	25(25.5%)	55(18.2%)	80(20%)
	>10th Standard	38(47.8%)	74(24.5%)	112(28%)
Designation	Pluckers	22(22.450	284(94%)	306(76.5%)
	Pruners/ Sprayers	43(43.9%)	1(0.3%)	44(11%)
	Others	33(33.7%)	17(5.6%)	50(12.5%)
Marital status	Married	91(92.9%)	264 (87.4%)	355(88.8%)
	Widowed	2(2%)	27(8.9%)	29(7.2%)
	Divorced	1(1%)	8(2.7%)	9(2.3%)
	Unmarried	4(4.1%)	3(1%)	7(1.8%)
Type of the family	Nuclear	80(81.6%)	244(80.8%)	324(81%)
	Joint	4(4.1%)	3(1%)	7(1.8%)
	Three generation	14(14.3%)	55(18.2%)	69(17.2%)

Work profile:

The mean years of work experience was 21.38 years (± 9.31years). Workers reported working for an average duration of eight hours/day. Majority of them, 360 (90%) said that they were satisfied with their work and 120 (30%) reported being satisfied with their salary. Little more than a quarter of the interviewed workers, 113 (28.2%) attributed their health problems to their work. When questioned about the interpersonal relationship at the workplace, 256 (64%) said that they had a fair relationship with their colleagues. Majority, 379 (94.7%) workers had availed leaves for less than four days in the past year.

History of reported mental illness and stress:

In the study population, two (0.5%) gave past history of mental illness and one (0.2%) reported family history of mental illness.

An associated co-morbidity was reported by 93 (23.2%) subjects. One third 131 (32.75%) reported having some form of substance abuse. The most commonly abused substance was chewable forms of tobacco. Among the married, 86 (31.9%) reported substance abuse in their spouse and 58 (67.4%) were worried about this, which can be a potential stressor for a mental illness. Seventy (17.5%) reported a stressful life event in the past one year. The most common stressful events reported were marriage of children and/or death in the family.

Most of the workers reported having good family support. When asked about the reasons for worry in general, 134 (33.5%) said that they were worried regarding their work and 126 (31.5%) about the education and future of their children. Most of them - 329 (82.2%), did not have any sleep disturbance. Nearly half, 176 (44%) reported experiencing happiness by attending place of worship like temples or church and 89 (22.2%) by spending time with their family members.

Probable Mental Illness as found by using the GHQ 28:

In this study, 51 (12.8%) of the study subjects screened positive for mental illness using the GHQ 28 and 4 (1%), 4 (1%), 1 (0.2%) and 6 (1.5%) screened positive for the domains of somatic symptoms, anxiety/insomnia, social dysfunction and severe depression respectively.

Distribution of demographic and work place variables across GHQ positivity is depicted in Table 2 and Table 3 respectively.

Table 2: Distribution of demographic variables with GHQ positivity

Variable		GHQ positive n (%)
Age (years)	20-30	03 (15.8)
	31-40	17 (12.9)
	41-50	20 (11.2)
	51-60	11 (15.7)
Gender	Male	16 (16.3)
	Female	35 (11.6)
Education	Illiterate	09 (8.4)
	<7th Standard	13 (12.9)
	7th-10th Standard	09 (17.2)
	>10th Standard	20 (17.1)
Substance abuse	Not using	36 (13.4)
	Tobacco	10 (11.9)
	Alcohol	05 (19.2)
Tobacco use	Smoking form	02 (6.2)
	Chewable form	08 (11)
Comorbidity	Presence	15 (16.1)
	Absence	36 (11.7)
Spouse substance abuse	Worried	05 (8.6)
	Not worried	07 (25)
Stressful life event in the past 1 year	Yes	10 (14.3)
	No	41 (12.4)

There was no significant association between GHQ positivity and the factors listed above. However a significant association was found between number of days of leaves availed and GHQ positivity as shown in table 4.

Table 3: Distribution of work place variables with GHQ positivity

Variable		GHQ positive n (%)
Work satisfaction	Yes	44 (12.2)
	No	79 (17.5)
Salary satisfaction	Yes	10 (8.3)
	No	41 (14.6)
Sleep disturbance	Yes	8(11.3)
	No	43(13.1)

Table 4: Association between GHQ positivity and Leaves availed

	Leaves availed (n, %)		Total
	days	>4 days	Total
GHQ 28 positive	44 (86.27)	7 (13.72)	51 (100)
GHQ 28 negative	335 (95.98)	14 (4.02)	349 (100)
Total	379 (94.75)	21(5.25)	400 (100)

$P < 0.005$

Discussion

The prevalence of probable mental illness among tea plantation workers in this study was 12.8% using GHQ28. This is probably the first study to document the prevalence of probable mental health illness among tea plantation workers.

In a study done on industrial workers in India using GHQ12 the prevalence was found to be 51.7%[4]. A community based study in Western Nigeria using GHQ12 found the same to be 18.9%. [10]

A study done on a production organization employees in India using GHQ28 showed that there was a positive correlation between perceived occupational health and mental health status.[8]

In a study done in Pakistan using GHQ28, a high level of mental health disorders were present among the female workers and in the workers in age group of 20 to 25 years [11]. In a study done by Dutta [9] on industrial workers, educational level, perceived stress, job satisfaction and stressful life events were identified as the independent determinants of psychiatric morbidity. However in this study, there was no statistically significant association found between the prevalence of probable mental illness and gender, age, education, occupation, socio-economic status, religion, marital status, type of family, substance abuse, spouse's substance abuse, comorbidity, stressful life events and job or salary satisfaction.

Workers who had screened positive for GHQ were found to have availed significantly more days of leave in the previous year, as compared to those who were GHQ negative. This reiterates the finding from earlier studies that mental illness is associated with decreased productivity among workers.[1,7,8]

Conclusion

The prevalence of probable mental health illness was found to be 12.8% using the GHQ 28 screening tool among tea plantation workers, which is in comparison with prevalence among the general population. The six subjects detected with severe depression followed up with the psychiatrist and were initiated on treatment. Workers who had screened positive for suspected mental illness were found to have availed significantly more days of leave in the previous year. There is a need to screen workers in different settings for probable mental illnesses and evaluate further for associated factors for the same, as mental health is known to affect one's work efficiency.

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