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Psychological morbidity among female textile workers in Pondicherry, South India: A cross sectional study

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ABSTRACT

INTRODUCTION: Indian textile industry is one of the largest in the world and accounts for 21% of total employment generated in the Indian economy. Current burden of occupational health diseases is estimated to be around 18 million cases. Morbidities also increased with age and female sex.

OBJECTIVES: To study the prevalence of psychological morbidity and factors affecting it, among female textile workers

METHODS: A cross sectional study was conducted among 179 women working in a textile industry in Puducherry. After obtaining informed consent, data was collected using a structured questionnaire. Psychological morbidity was assessed using general health questionnaire (GHQ-12). Data was analyzed using SPSS version 24: IBM, Chi-square test and multivariate analysis was done, P values less than 0.05 were considered significant.

RESULTS: Among 179 female textile workers psychological problems was present in 78 %(139). Determinants that were significantly associated with psychological morbidity were, percapita income ≤1000 (p=0.002), education ≤8th class (p=0.019), nuclear family (p=0.031), presence of family problems (p=0.014) and some illness (p=0.001). On multivariate analysis, education ≤8th class (OR=2.38, 95% CI= 1.04-5.37, p=0.03), percapita income ≤1000 (OR=3.61, 95% CI= 1.55-8.41, p=0.003), presence of illness (OR=4.5, 95% CI= 1.97-10.48, p=0.000), nuclear family (OR=3.47, 95% CI= 1.42-8.51, p=0.006), emerged as individual risk factors that were associated with presence of psychological problem.

CONCLUSION: study showed a very high prevalence of psychological morbidity among female workers. Women pose a dual burden of work both in house and workplace hence proper social support mechanisms need to be strengthened. Periodic counseling, stress upon coping skills should be given during their periodic medical checkup This would not only decrease psychological morbidity but also increase production of industry which would ameliorate our Indian economy in long run..

Keywords: psychological Morbidity, Female textile workers, Pondicherry, South India

INTRODUCTION

The Indian textile industry is one of the largest in the world with a massive raw material and textiles manufacturing base. [1] Indian economy is largely dependent on the textile manufacturing and trade in addition to other major industries. About 27% of the foreign exchange earnings are on account of export of textiles and clothing alone.[1] Textile industry accounts for 21% of the total employment generated in the Indian economy. Around 35 million people are directly employed in the textile manufacturing activities. Indirect employment including the manpower engaged in agricultural based raw-material production like cotton and related trade and handling could be around another 60 million. [1]

The current burden of occupational health diseases is estimated to be around 18 million cases and among them, the annual incidence of chronic respiratory disorders is forty five lakh, dermatitis is thirty lakh and musculoskeletal disorders is seventy five thousand cases. Thirty percent of hospital admissions

and twenty eight percent of limb injuries are related to occupation diseases morbidities. [2]

The morbidities also increased with age and sex; morbidity among women was 1.5 higher than among men. [3] According to the data available, approximately 60% of the population employed in the garment industry is women. [4] Women workers; they contribute significantly to national development by performing both remunerated/paid and unremunerated/unpaid work. They also struggle to combine their roles to look after their families. Women household workers have a duel burden as there is greater demand for their skills as care-givers and service workers outside home. [5]

Only few studies were done on the psychological problems prevailing among female textile workers. One among them showed that, the commonest mental health disorders, that were found were, somatic illness (11%), anxiety (7.6%), social dysfunction (7.1%) and symptoms of depression (6.8%). [6] Studies also revealed that 35% of the workers had job-related stress, 82% experienced mental tension and 75% had work pressure. [7] A study conducted in Bangalore revealed that 5.9% of the workers were under severe psychological distress. [8]

Pondicherry has nearly 8708 small scale industries apart from 45 large scale and 80 medium scale industries. Taken together, these provide employment to more than 80,000 people. Some of the significant industries in Pondicherry are chemicals, textiles, light engineering, metals, and food processing. These were the industries which contribute to the economic growth of Pondicherry as well as overall health status of the community. [9]

As textile industry is one of the significant industries in Puducherry that contribute to the economic growth and give employment to majority of people, a study on psychological morbidity and factors affecting it, among female textile workers in Puducherry, would help us to decrease the somatic and physical illness as the mental illness and physical illness play a vicious cycle. This would in turn increase production of industry which would ameliorate our Indian economy in long run.

MATERIALS AND METHODS

This descriptive study was conducted in the year 2011 from April-June. There were five large scale/Public sector and seven medium scale textile industries in Pondicherry, out of these textile industries this textile industry "x" was chosen by purposive sampling. This industry exclusively employs female workers. It produces cotton and jute products like bags and clothes. Calculated sample size was 96 subjects based on estimated 45% prevalence rate [6] (prevalence of Psychological morbidity), precision of 10%. All subjects in the industrial unit were invited to participate in the medical evaluation.

A structured questionnaire was prepared, piloted and pre tested. The questionnaire included socio-demographic details of the participant, nature of job, duration of employment and presenting complaints. Modified Prasad's classification was used for calculating SES. 12 itemed General health questionnaire (GHQ 12) was used to screen for presence of psychological morbidity. The study was approved by the institute Scientific and Ethics committee. Administrative permissions were obtained from the management after explaining the purpose of the study. After obtaining the informed consent verbally, the participants were interviewed as per the questionnaire.

Statistical analysis was done using SPSS version 24: IBM. We calculated odds ratios using logistic regression to find out the risk factors for presence of psychological problem. 95% confidence intervals were stated for Odds ratios. In all analyses, P values less than 0.05 were considered significant.

RESULTS:

There were totally 185 female workers in that industry. A total of 179 subjects participated in the study and the rest of the female workers left their job just before the start of the study. Mean age of the participants was 34.94 ± 8.9. Among the study subjects majority (83.8%) were aged >25yrs, 141(78.8%) were married, 109 (60.9%) had education <=8th class. More than fifty percent had <=1000 per capita income lived in semipucca house, and 75% were from nuclear family. Majority (85%) of the workers were from the urban area. Most of the women were employed for <=5 yrs. Most (68.2%) of the study subjects were employed in stitching, while the other types of job profile included cutting (11.7%), packing (3.3%) and general assistance. (Table-1)

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Table 1: Socio-demographic details and work profile of the study subjects (n=179)

Sl no	Sociodemographic variable	N (%)
1	**Age**	
	≤25	**29(16.2)**
	>25	**150(83.8)**
2	**Marital status**	
	Married	**141(78.8)**
	Unmarried	**32(17.9)**
	Widowed	**6(3.3)**
3	**Education**	
	≤8TH class	**109(60.9)**
	>8th class	**70(39.1)**
4	**Percapita income**	
	≤1000	**91(51.1)**
	>1000	**87(48.9)**
5	**Domicile**	
	Urban	**153(85.5)**
	Rural	**26(14.5)**
6	**Type of house**	
	Kutcha	**36(18.7)**
	Semipucca	**100(51.8)**
	Pucca	**43(22.3)**
7	**Type of family**	
	Nuclear	**135(75.4)**
	joint	**44(24.6)**
8	**Work experience in years**	
	≤5yrs	**133(74.3)**
	>5yrs	**46(25.7)**
9	**Type of work**	
	Cutting	**21(11.7)**
	Stitching	**122(68.2)**
	Helping	**30(16.8)**
	Packing	**6(3.3)**
Total		**179**

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Among the 179 female textile workers 78 %(139) had some psychological problem based on GHQ. (Fig.1) On univariate analysis factors such as, education ≤8th class, percapita income <1000, presence of some family problem, some illness, nuclear family, emerged as risk factors that were associated with presence of psychological problem. (Table 2)

On multivariate analysis, education ≤8th class (OR=2.38, 95% CI= 1.04-5.37, p=0.03), percapita income ≤1000 (OR=3.61, 95% CI= 1.55-8.41, p=0.003), presence of illness (OR=4.5, 95% CI= 1.97-10.48, p=0.000), nuclear family (OR=3.47, 95% CI= 1.42-8.51, p=0.006), emerged as individual risk factors that were associated with presence of psychological problem. (Table 3)

Figure 1: Psychological morbidity among study subjects (n=179)

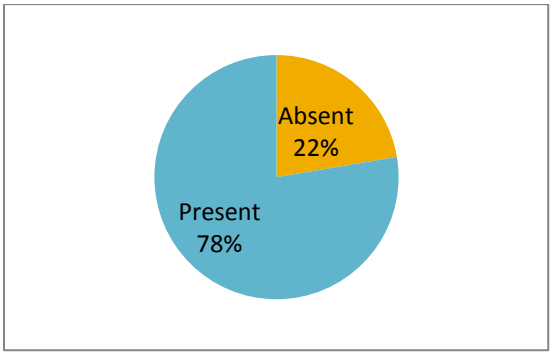

Table 2: Risk factors for Psychological morbidity among study subjects (n=179)

Sl no	Risk factors	Psychological problem Absent N (%)	Psychological problem Present N (%)	Total N (%)	Chi-square	df	P value
1	**Education**						
	≤8th class	18	91	109	5.464	1	0.019
	>8th class	22	48	70			
2	**Percapita income**						
	≤1000	12	79	91	9.213	1	0.002
	>1000	28	59	87			
3	**Type of family**						
	Nuclear	25	110	135	4.637	1	0.03
	Joint	15	29	44			
4	**Family problems**						
	Absent	35	94	129	6.095	1	0.014
	Present	5	45	50			
5	**Some illness***						

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	Absent Present	23 17	41 98	64 115	10.604	1	.001
Total		40	139				

*Some illness=diabetes, hypertension, illness related to- musculoskeletal, respiratory, gastrointestinal or genitourinary system

Table 3: Multivariable adjusted analysis of factors affecting psychological morbidity (n=179)

Sl no	Independent variable	Odds ratio (95% CI)	P value
1	**Education** ≤8th class >8th class	 2.38(1.04-5.37) 1	 **0.03**
2	**Percapita income** ≤1000 >1000	 3.61(1.55-8.41) 1	 **0.003**
3	**Type of family** Nuclear Joint	 3.47(1.42-8.51) 1	 **0.006**
4	**Some illness** Absent Present	 1 4.5(1.97-10.48)	 **0.000**

Hosmer-Lemeshow goodness-of-fit Chi-Square

DISCUSSION:

The present study showed (78%) of people having psychological problem. This is higher than other studies that were done Bangalore (45%) [6] However as GHQ is only a screening instrument for checking the presence psychological morbidity. Hence further research is required to identify the specific psychological illness like depression, anxiety and felt psychological disturbance, social impairment, and hypochondriasis.

In addition there are also gender differences particularly in the rates of common mental disorders (CMDs) -depression, anxiety, and somatic complaints wherein women predominate. Unipolar depression, which is predicted to be the second leading cause of global disability burden by 2020, is twice as common in women. Furthermore, the lifetime risk of anxiety disorders (e.g., generalized anxiety disorder) is 2–3 times higher in females as compared to males. [13]

Hormonal factors related to the reproductive cycle may play a role in women's increased vulnerability to depression. [14] Another answer may be that the factors independently associated with the risk for CMD are factors indicative of gender disadvantage. These factors include excessive partner alcohol use, sexual, and physical violence by the husband, being widowed or separated, having low autonomy in decision making, and having low levels of support from one's family. [15,16,17]

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Low percapita income (≤1000) and low education (≤8th class) level were significantly associated with psychological problems this was in accordance with the other literature. [10, 11, 12] For poorer women, economic necessity compels them to seek employment outside the home. The occupations that are available to them are; however, lower in pay than those available to men leading to exploitation. Gradually, there has been a change in the availability of employment to more respectable office jobs where more education is demanded. Thus, although, larger sections of women from all socioeconomic classes are employed outside the home; this neither relieves them from their domestic duties nor does this change their social position significantly.

Furthermore, stressful life events are closely associated with the occurrence of depression in vulnerable individuals. During their lifetimes, females are faced with various life stressors including childbirth and maternal roles, caring and nurturing the old and sick of the family. In addition, women are less empowered due to lesser opportunities of education and respectable employment. Moreover, even those who are financially secure fear to cross social lines and therefore too are apparently vulnerable.

Presence of illness (OR=4.5, 95% CI= 1.97-10.48, p=0.000) was significantly associated with presence of psychological problem. A chronic physical illness is an enduring health problem that will not go away – for example diabetes, asthma, arthritis or cancer. Chronic physical illnesses can be managed, but they cannot be cured. People who live with a chronic illness have a greater risk of developing anxiety and/or depression.

Nuclear family (OR=3.47, 95% CI= 1.42-8.51, p=0.006), also emerged as a significant factor that was associated with presence of psychological problem. Family is a basic social unit of general population and may have an important effect on mental health. Furthermore because of intense competition in industrialization and globalization adult population faces greater pressure in their work and personal lives, and prone to get psychological problems. However study done by Usama Bin Zubair et al showed that large family size with poor socio economic status was with high psychological problems. [10]

RECOMMENDATION

Study showed a very high prevalence of psychological morbidity among female workers. Women pose a dual burden of work both in house and workplace hence proper social support mechanisms need to be strengthened. Periodic counseling, stress upon coping skills should be given during their periodic medical checkup. There is also need for proper pre placement and periodic health checkups so that proper medical care could be given if needed. The company could also arrange for some recreational activities for the workers as a family, which would decrease the mental stress to some extent. These efforts would not only decrease psychological morbidity but also increase production of industry which would ameliorate our Indian economy in long run.

CONCLUSION

This study showed education ≤8th class, percapita income ≤1000, presence of illness, nuclear family as individual risk factors for the presence of psychological problem. This indicates that, the sustainable development goal (SDG) 1, 2, 3, 4 and 5 needs to be addressed properly to curtain poverty, illiteracy and illness and on the whole to strengthen our country's economy.

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