

Assessment of Stress among Workers Engaged in Zari Making in an Urban Slum of Mumbai, India

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Research Article

Abstract: **Context:** Zari work which employs a large human resource is a type of occupation which comes under unorganised sector. A variety of factors contribute to stress in the employees such as negative workload, isolation, long working hours, difficult relationships among co-workers and management, harassment and lack of opportunities or motivation to advancement in one's skill level. **Aims:** To assess the occupational stress among workers involved in zari industry in an Urban Slum of Mumbai, India. **Methods:** The present cross-sectional descriptive study was conducted by selecting 800 zari workers by simple random sampling. All the subjects are subjected to Occupational Stress Index (OSI) test to assess the level of stress among them. **Statistical analysis:** The comparison of qualitative data was done using chi-square test. The confidence limit for significance was fixed at 95% level with p-value < 0.05. **Results:** Out of 800 workers, 82% were between age group of 15 to 44 years. Most of the workers had moderate level of stress (61%) with role conflict part of stress scale playing the most important role (64.1%). A significant increase in stress levels among workers was noted with increase in the duration in present job ($p < 0.05$). **Conclusion:** Being an unorganised sector occupation, zari making put significant stress on workers which increases with duration in present job.

Key Words: Occupational Stress, Urban Slum, Zari Workers.

Introduction

Occupational stress is a dynamic condition in which an individual is confronted with opportunities, constraints and/or demands related to what the individual desires and from which the outcome is perceived to be uncertain and important in relation to its employment.^[1, 2] The spectrum of industries in India extends from the organized large and medium industries to modern small scale industries and unorganized traditional industries. The last two industries are known as village and small industries (VSI). Both of them constitute a vital segment of our country's economy. Zari embroidery which involves glittering the appurts of various kinds, with metallic fibre or other ornamental material is a kind of occupation which comes under unorganized sector. A variety of factors contribute to workplace stress such as negative workload, isolation, extensive hours worked, toxic work environments, lack of autonomy, difficult relationships among co-workers and management, management bullying, harassment and lack of opportunities or motivation to advancement in one's skill level.^[3] From the documented evidence, it is clear that as far as work life is concerned extreme stress is so

aversive to employees that they will try to avoid it by withdrawing either psychologically (through disinterest or lack of involvement in the job), physically (frequent late coming, absenteeism, lethargy etc.) or by leaving the job entirely. It predisposes the individual to develop several psychosomatic illnesses; in contrast, the absence of extreme stress would result in more satisfied, happy, healthy and effective employees. However, the stress one experiences in the job vary from mild to severe depending on one's physiological, psychological and social make up. Little has been published about the workers engaged in zari making industry, despite the fact that it involves a large human resource and has a potential future in Indian economy. Present study was carried out to assess the occupational stress among workers involved in zari industry.

Materials and Methodology

Study Design: The present cross-sectional descriptive study was conducted at an urban slum in Mumbai, India. It was conducted during the period of May 2012 to December 2012 by selecting 800 zari workers by simple random sampling.

The study was implemented in the following phases:

- 1) **Preparatory phase**
 - a) **Administrative approval:** Appropriate approvals were taken from Dean of the College, Head of Dept. of Community Medicine, Head of Urban Health Camp and Institutional Ethical Committee (IEC).
 - b) **Construction of tools:** A checklist was prepared for interview schedule, observation and focus group discussion. Voluntary consent form was prepared in English, Hindi and Marathi.
- 2) **Data collection phase**
 - a) **Study Area:** The study was conducted at Cheetah Camp urban slum which is a field practice area of Department of Preventive and Social Medicine of the parent Medical College. The population of Cheetah Camp consists of people who have migrated from different parts of India, mainly from Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh, Andhra Pradesh and Tamil Nadu. They have migrated to Mumbai in search of job and are now engaged in small scale industries like Zari

work, Bag making, Mat weaving, Carpentry, tailoring etc.

b) Survey of the study area: The survey was carried out with the help of Medical Social Worker, volunteers of Youth clubs and members of Community Based Organisations to identify the number of units engaged in zari work, their distribution, and average number of workers in one unit etc. It was observed that there were approximately 1000 zari units, distributed all over the study area. About 8-10 workers were employed in each unit.

c) Sampling: Since minimum 8000 workers were occupied in \approx 1000 zari units, it was decided to enroll 10% of the total workforce. A list of all 1000 units was made with each given a unique serial number and 100 units were randomly selected using table of random numbers. A list of 800 workers from these units was made. Thus the final sample size enrolled was 800. It was decided to interview and examine all the 800 workers in the unit itself.

d) Inclusion Criteria

1. Zari workers who were present on the duty in any shift during study period.

Criteria based on normal distribution.

Sr. No.	Level Of Occupational Stress	Index Score
1	Low	46 -122
2	Moderate	123 -155
3	High	156 -230

Sub- scales and levels of occupational stress^[4]

Sr. No.	Sub Scale	Low	Moderate	High
1	Role overload	6 -14	15 -22	23 -30
2	Role Ambiguity	4-9	10-12	13-20
3	Role Conflict	5-12	13-17	18-25
4	Unreasonable group & Political pressure	4-9	10-14	15-20
5	Responsibility for Person	3-7	8-11	12-15
6	Under participation	4-9	10-12	13-20
7	Powerlessness	3-7	8-11	12-15
8	Poor peer relation	4-8	9-13	14-20
9	Intrinsic Impoverishment	4-9	10-13	14-20
10	Low status	3-6	7-11	12-15
11	Strenuous Working condition	4-9	10-12	13-20
12	Unprofitability	2-4	5-7	8-10

3) Data entry & analysis

Collected data was entered in MS-Excel 2007 and analyzed using SPSS 16.0 version. The comparison of qualitative data was done using chi-square test. The confidence limit for significance was fixed at 95% level with p-value < 0.05 .

Results

Total 800 zari workers were interviewed. Table 1 reveals that majority of the zari workers were males (95.9%). Out of 800 workers, 82% were between age group of 15 to 44 years with mean age of 26.7 years. The bulk of workforce belonged to lower socio-economic class i.e. Class III (34.8%) and class IV

2. Those who have been employed for at least 2 years.
3. Those who gave consent to participate in the study.

e) Exclusion Criteria

1. Bag makers who are chronically absent during the study period.
2. Bag makers who were hospitalised.

Occupational Stress Index (OSI) test developed by Srivastva and Singh (2000) consists of 46 items in 12 subscales (occupational stressors) rated with 5-point scales was used to measure occupational stress among zari workers. Reliability index by split-half method is 0.93 for OSI test and 0.60-0.84 for subscales. Validity of test in relation to various measures including ill mental health indices was positively correlated (2-4.9).^[4]

As per the norms, the analyses of the scores formed into 3 categories i.e. low, moderate and high, following the principles of normal distribution. The scores falling below $-1 SD$, between mean $+/- 1 SD$ and above $+1 SD$ were categorized respectively as to indicate low, moderate and high level of occupational stress.^[5]

(24.3%). Literacy wise the figures were concerning, with most workers having only primary education (41.3%). Illiteracy was also prevalent in the bag maker community (7.0%). From tables 2 and 3, it can be observed that majority of the zari workers had moderate level of stress (61%) with the role conflict part of stress scale, playing the most important role (64.1%). Table 4 shows that, with increase in the duration of job there was an increase in the level of stress among zari workers. We found a significant increase in stress in workers with greater than 30 years in present job in comparison with workers with less than 10 years.

Table 1: Distribution of socio-demographic variables among the Subjects

Variables		No.	Percentage
Sex	Female	33	4.1%
	Male	767	95.9%
Age (years)	15 to 24	264	33.0%
	25 to 34	191	23.9%
	35 to 44	201	25.1%
	45 to 54	104	13.0%
	55 to 64	40	5.0%
Religion	Hindu	154	19.3%
	Muslim	646	80.8%
Socioeconomic Class	Class I	84	10.5%
	Class II	244	30.5%
	Class III	278	34.8%
	Class IV	194	24.3%
Married	Yes	552	69.0%
	No	248	31.0%
Education	Illiterate	56	7.0%
	Primary	330	41.3%
	Secondary	215	26.9%
	Higher Secondary	191	23.9%
	Graduate	8	1.0%

Table 2: Distribution of subject according to Occupational Stress Score

Level Of Occupational Stress	N	%
Low (46-122)	269	33.6
Moderate (123-155)	488	61
High (156-230)	43	5.4
Mean score - 141.7		

Table 3: Distribution of Subjects according to various subscales of Occupational Stress Index (OSI)

Subscale		Low stress	Moderate stress	High stress	Total
Role Overload	No.	286	474	40	800
	%	35.8%	59.3%	5.0%	100.0%
Role Conflict	No.	287	513	0	800
	%	35.9%	64.1%	0.0%	100.0%
Role Ambiguity	No.	288	472	40	800
	%	36.0%	59.0%	5.0%	100.0%
Unreasonable group and political pressure	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Responsibility for person	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Under participation	No.	287	472	41	800
	%	35.9%	59.0%	5.1%	100.0%
Powerlessness	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Intrinsic impoverishment	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Strenuous working conditions	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Poor peer relation	No.	287	473	40	800
	%	35.9%	59.1%	5.0%	100.0%
Low status	No.	327	453	40	800
	%	40.9%	56.6%	5.0%	100.0%
Unprofitability	No.	317	457	25	800
	%	39.7%	57.2%	3.1%	100.0%

Table 4: Association of Stress among the Subjects with years of service in present occupation

Scale	Level of stress	Duration								p-value	
		< 10 years		10-19 years		20-29 years		> 30 years			
		N	%	N	%	N	%	N	%		
Role Overload	Low	280	35.0	4	0.5	2	0.3	0	0.0	< 0.01	
	Moderate/ High	73	9.1	313	39.1	96	12.0	32	4.0		
Role Conflict	Low	278	34.8	6	0.8	2	0.3	1	0.1	< 0.01	
	Moderate/ High	72	9.0	300	37.5	106	13.3	35	4.4		
Role Ambiguity	Low	119	14.9	121	15.1	48	6.0	0	0.0	< 0.01	
	Moderate/ High	240	30.0	192	24.0	64	8.0	16	2.0		
Unreasonable group/ political pressure	Low	200	25.0	70	8.8	17	2.1	0	0.0	< 0.01	
	Moderate/ High	72	9.0	313	39.1	98	12.3	30	3.8		
Responsibility for person	Low	284	35.5	2	0.3	1	0.1	0	0.0	< 0.01	
	Moderate/ High	82	10.3	303	37.9	88	11.0	40	5.0		
Under participation	Low	287	35.9	0	0.0	0	0.0	0	0.0	< 0.01	
	Moderate/ High	82	10.3	323	40.4	86	10.8	22	2.8		
Powerlessness	Low	200	25.0	80	10.0	7	0.9	0	0.0	< 0.01	
	Moderate/ High	70	8.8	315	39.4	98	12.3	30	3.8		
Intrinsic Impoverishme-nt	Low	277	34.6	7	0.9	3	0.4	0	0.0	< 0.01	
	Moderate/ High	102	12.8	303	37.9	88	11.0	20	2.5		
Strenuous working conditions	Low	247	30.9	22	2.8	12	1.5	6	0.8	< 0.01	
	Moderate/ High	52	6.5	333	41.6	96	12.0	32	4.0		
Poor peer relation	Low	280	35.0	5	0.6	2	0.3	0	0.0	< 0.01	
	Moderate/ High	42	5.3	313	39.1	116	14.5	42	5.3		
Low status	Low	307	38.4	12	1.5	8	1.0	0	0.0	< 0.01	
	Moderate/ High	62	7.8	293	36.6	86	10.8	32	4.0		
Unprofitability	Low	307	38.4	6	0.8	4	0.5	0	0.0	< 0.01	
	Moderate/ High	72	9.0	293	36.6	86	10.8	32	4.0		

Discussion

In Present study mean age of the workers was 26.7 years, which is in accordance with the study done by Punalekar et al.^[6] on 500 female workers of zari and embroidery sector in South Gujrat, India. Only 4.1% of study sample consists of female. This may be under representation of total female workforce, as most of them belonged to Muslim community who refused to participate in the study. On evaluating the levels of stress among zari workers, we found that majority of them showed moderate to high stress (66.4%). The reason for the same may be their poor socioeconomic status,^[7] poor working conditions,^[8] job insecurity^[9] or poor social support^[10]. Plaisier et al^[8] suggested that poor working conditions may be an important precursor of stress and may, therefore, contribute to the development of depression or anxiety. There are abundant studies exploring the relationship between working conditions and stress, anxiety and depression^[11-15]. A study done by Rusli et al^[10] found that social support was inversely related to self-perceived stress and depression. In present study, significant relationship was seen between various sub scales of OSI and duration in present job. The workers with less than 10 years of experience in current job encounter lower level of stress whereas almost all the workers with more than 30 years, experiences high levels of stress. The parameters like poor working environment, work deadlines, too much work, lack of support and liberty for the work may play a significant role in causation of stress and as zari workers with more than 30 years in current job are exposed more to these

factors than people with lesser experience, they tends to have higher levels of stress.

Recommendations

Zari work should be recognised as a significant economic industry and should be registered under ward officer. This will ensure the regulation of working environment and entitle them to various benefit schemes. Organisation of regular health check up clinics to diagnose early signs of stress and depression. Organizational and extra-organizational social support groups formation should be encouraged as it can moderate and attenuate detrimental effects of stress.

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