

ASSESSMENT OF JOB SATISFACTION AMONG FISHERMEN IN SOUTHERN-EAST COSTAL AREA OF MUMBAI, INDIA

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ABSTRACT

Fishery is one of the important unorganised sectors in India. It provides employment to millions of people and contributes to food security of the country. But fishermen are facing number of problems like underemployment, low income, and dangerous job conditions, mental stress, harsh weather and working conditions, major threat to self esteem, psychological sense of mastery, self-reported stress levels (loss of temper, back pain, forgetfulness). However there are no occupational health services for fishermen, and there is no mandatory health screening for fishermen as in for other sea workers. Present community based descriptive study was carried out during January to June 2011 in Trombay village area of Mumbai to assess Job satisfaction among them. Total 500 fishermen were interviewed out of which 62 % fishermen were in the age group of 15 to 42. The average age was $34.9 \pm SD 14.9$. Significant association was found between Job satisfaction and Job stress, marital status, depth of sea fishing, socio-economic status and type of job. Thus reduction in factors responsible for job stress should be carried out. Periodical health education sessions comprising of psychological training program are required to support personal competence of fishermen so that they can handle job stress effectively.

KEYWORDS: Fishermen, Job Satisfaction, Job Stress, Injuries

INTRODUCTION

Fishing appears to select for and fulfil a number of psychic needs above and beyond an income. It takes one into a completely different environment, away from shore-based activities and allows the participant to become involved in the thrill of the hunt, pitting ones' luck and skill against others as well as against an elusive prey that is hidden beneath the water. It has been observed that fishers resist changing to alternative sources of income even when their catches fall to the point where it would make economic sense to do so.¹

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 (i.e. modern small scale industries and unorganized traditional industries) are known as village and small industries (VSI). Both of them constitute a vital segment of our country's economy. Fishery is one of the important unorganised sectors in India. It provides employment to millions of people and contributes to food security of the country. With a coastline over 8000 km, an exclusive economic zone (EEZ) of 2.2 million square km. with ranking 7th all over world, and with extensive freshwater resources, fisheries play a vital role.²

Though, fishing is one of the main occupations in the coastal India and also in some of main interior lakes of India which occupies a large population. Still there hasn't been enough research on people employed in this occupation. Underemployment, low income, and dangerous job conditions, mental stress among fishermen, harsh weather and working

conditions, major threat to self esteem, psychological sense of mastery, self-reported stress levels (loss of temper, back pain, forgetfulness) all of which are associated with individual inability to maintain economic control of fishing operations. Fishermen are subject to strong vibrations, noxious diesel fumes, and the noise from the engines and generators. Fishermen often work wet and are in frequent threat of developing hypothermia. Even when things are going right, mental and physical fatigue are unavoidable and frequently lead to injury. Safety is always a concern for fishermen who deal with a product that bites pinches and stings, while working hard, long and rapidly on a platform that is wet, slippery, and in constant motion. There also has been scarce data elaborating the health profile or occupational morbidity among fishermen in India.²

A number of measures have been taken on improving safety of fishermen. However there are no occupational health services for fishermen, and there is no mandatory health screening for fishermen as in for other sea workers. This may be due to self employed status of many workers. But there have been no strict rules about timing of fishing as well. There has been no study to assess these particular variables deciding job satisfaction. Job satisfaction increases productivity in any occupation and ultimately contributes to nation's development. Present study was carried out to assess job satisfaction among fishermen.

MATERIALS AND METHODOLOGY

The present community based descriptive epidemiological study on fishermen was conducted during January to June 2011, after taking prior approval from higher authorities in Trombay Village Area, which is situated in the M- East Ward of Municipal Corporation of Greater Mumbai (MCGM). It is the field practice area of P.S.M department of TN Medical College, Mumbai, India. The necessary approvals to carry out the present study were obtained from The Dean of TN Medical College, Mumbai; Ethics committee of TN Medical College, Mumbai; Professor and Head, Department of Preventive and Social Medicine, TN Medical College, Mumbai; In Charge of Urban Health Center, Cheeta Camp, Mumbai.

The survey of study area was carried out with the help of Medical Social Worker, volunteers of Turbhe Goan Koli Sanghata and members of CBOs Like Macchimar Seva Sangh, Agrisena to identify the number of catamarans, launches, and trawlers engaged in fishing, their distribution, and average number of workers in one Launch or trawler etc. It was observed that there were approximately 300 boats (catamarans, launches, and trawlers), owned by the population under the study area. About 1-3 workers were employed on one boat depending on the size, modernization, and average amount of the catch on the boat.

There were total 557 fishermen working, out of which 30 were randomly selected for pilot study. Based on the findings of pilot study appropriate corrections were made in final interview questionnaires. Out of remaining 527 fishermen 27 fishermen were excluded (based on inclusion and exclusion criteria) and 500 fishermen were enrolled for main study. The workers were approached at their respective boats anchored at shore of the creek before or after working hours. Each worker was interviewed using preformed, pretested semi-structured interview schedule which included the detailed past history, personal history about addictions, family history, behaviours and practices during fishing. The individuals were also assessed for anthropometric measurements which were undertaken using a measuring tape and weighing scale. Body mass index (BMI) of all the fishermen was calculated using Quetlet's Index (BMI- Weight in kilograms / Height² in metres). Blood pressure was measured twice after advising the fisherman to take rest for 10 minutes before and between two readings using sphygmomanometer. In addition to these, the work environment at the seashore was observed and several factors like menagerie, noise etc. were noted. Besides these, camp was conducted four times in

the area on Sundays with the help of a trust of Cheetah Camp, which included detailed medical check-up. Also, a workshop was conducted with the help of an occupational therapist for the benefits of fishermen to make them self capable for getting rid from musculoskeletal pains with ergonomic posturing and other tips. Job stress was assessed using 'John D. and Catherine T. Macarthur Research Network on Socioeconomic Status and Health; Perceived stress scale'.³

Collected data were entered in Microsoft excel 2007 and analyzed using SPSS 16.0 version. Confidence limit for significance was fixed at 95% level with p value less than 0.05.

RESULTS

Total 500 hundred fishermen were included in the study. Table 1 reveals 62 % fishermen were in the age group of 15 to 42. The minimum age was found to be 12 years where as maximum was 92 years. The Average age was $34.9 \pm SD$ 14.9. The bulk of the workforce 52.8% belonged to upper lower socio-economic class according to Kuppuswamy Socioeconomic status scale. Of the total 500 subjects, 70.4% were married and 45% workers were either illiterate or had only primary education. On housing front majority of fishermen 86.4% had pucca houses but 4.2% of the fishermen were found living on beaches without any houses, mostly from category of labourers and that too migrants. Table 2 describes, majority of the fishermen (67.4%) had fishing as a main occupation, with some working as supervisors (22%) and labourers (10.6%). In terms of years of service in the fishing only 20.6% of the fishermen had job experience between 11 to 20 years, while 4.6% had job experience of more than 40 years. Majority of the fishermen (81%) were daily visitors to the sea. With respect to number of hours spent in the sea most fishermen, 57.6% were spending more than 10 hours in the sea. Pertaining to fishing depth showed that 40.8% fishermen fished at both the depths. In terms of the launches 8.4% fishermen had 2 big launches, 23% had 1 big launch. Pertaining to possession small launch, 88.6% fishermen had small launches and 11.4% fishermen had no launches at all. In terms of fishing nets majority (46.8%) of the fishermen had 5 to 8 fishing nets.

Tables 3 shows, significant association of workers job satisfaction with marital status, depth of sea fishing, job stress, type of job, socioeconomic class and alcoholic status. Table 4 describes the results of the multivariate logistic regression analyses with adjustments for age, educational level, duration of working offshore, and the history of work related injury in the past year. It was observed that the probability of fishermen 'Job satisfied' increased significantly as respondents are married or belong to economic class III. The odds of perceiving job satisfaction increased significantly with increase in the number of big launches or fishing depth of sea both deep and shallow. The likelihood of obtaining job satisfaction decreased significantly when fishermen perceived their job stressful. The odds of obtaining job satisfaction increased with perception of fishermen that 'alcohol relieves stress' nevertheless odds decreased very significantly with perception of fishermen 'alcohol increase work efficiency'.

DISCUSSIONS

The present community based descriptive epidemiological study on fishermen was conducted during January to June 2011 in Trombay Village Area. Total 500 fishermen were interviewed out of which 4.2% were less than 15 years of age. Child labour was seen quite rampantly in the fishing trade in the present study. Children in the age group of 12 to 15 were seen to be involved in the trading as well fishing in large numbers in the Trombay Koliwada area. The reason for this might be as fishing being their familial occupation their parents might want them to learn the job quite early in life. Some of the children visit the sea in the absence of their parents who were not into fishing for different reason like sickness, alcoholics, trading of caught fish, etc. Hence children might have to visit the sea to evade the monetary loss. Various studies have shown that young workers are more prone for job related injuries and mental stress compare to elder worker.

Study done by Dewa et al. found that more chances of mental stress in young workers.⁴ Fishermen with greater job knowledge and experience in dealing with workplace issues can employ effective strategies to deal with the stressor.

Religion wise 96.6% were Hindus, 2.8% were Muslims and 0.6% were Christians. In Maharashtra State majority people in fisheries belong to Koli caste; fishing being their familial occupation. This caste comes under Hindu religion hence Hindu predominance can be seen. The bulk of the workforce belonged to lower socio-economic Class IV and Class V.⁵ This indicates that fishing is not an economically productive occupation.

Literacy wise the figures were concerning, with 45.2% fishermen were either illiterate or had primary education. A large proportion of the community (22.4%) was graduated. Though fishing is not an economically productive occupation, yet attracts large number of people due to unemployment. Dewa et al. described more chances of mental stress because of Job in less educated (less than 12th standard) and in young workers.⁴

On housing front, majority of fishermen had pucca houses, but 4.2% of the fishermen were living on beaches without any house. Most of homeless fishermen were from the category of labourers. All these labourers were migrants from the different parts of India, and as the area densely populated, and due to expensive places these migrants prefer to stay at the beach. These subjects are more prone to insect bites and harsh winds and also to ill effects of poor hygiene and sanitation.

In terms of years of service in the fishing, 43.2% fishermen have 10 or less than 10 years of job experience. Dewa et al. described more chances of Job stress in workers with less experience compare to worker with more experience.³ With respect to number of hours spent in the sea most fishermen were spending more than 10 hours daily in the sea for last ten years. In terms of launches and number of nets, majority of fishermen were small fishermen working on small launches which were non-machinated, while some of them did not have launches at all, which was the reason for getting fewer catches and as a result less income ultimately leading to job stress. All the work done by fishermen was manual work because of less mechanization of boats. Thus this illustrates fishermen might experience physical stress during work. Dewa et al. described chronic exposure to high work stress can transform into burnout, mental disorder and disability. Probability of describing a job as highly stressful significantly as their job require additional or variable hours.³ Also Maria et al. described altered social relations, physically onerous, the lack of control, and the lack of support lead to mental stress.⁶ Dembe et al. described more chances of injuries in a job with overtime compared to jobs without overtime. Working at least 12 hours per day was associated with a 37% increased hazard rate and working at least 60 hours per week was associated with a 23% increased hazard rate.⁷

One of the components of the stress scale 'Job satisfaction' was compared with marital status of the fishermen. Most of the married fishermen were satisfied with their jobs; the reason for this association could be emotional and social support needed to curb down the stress at the workplace. Studies have shown that marriage definitely provides the kind of psychological support required to curb down the stress. Dewa et al. described workers with disrupted marriages were more likely to identify their job as being associated with high stress.⁴ Also Maria et al.⁶ described lack of support in workers leads to more mental stress. They mentioned that comparing to the officers with a long period of service at sea, the students were more vulnerable to stress at work, and this was attributed to social relations, physical onerousness, the lack of control, and the lack of support. Therefore the programme of psychological training, aimed at supporting the personal competence, was proposed as a preventive intervention.⁶

In present study deep sea fishers were more satisfied compare to fishers fishing at both deep and shallow levels. The reasons for this relationship could be that fishing at both the levels of sea may increase both mental as well as physical

stress on fishermen. Also more chances of injuries in fishermen fishing at both level. These physical injuries may in turn increase mental stress. Chen et al. in their study described the role of effect of musculoskeletal injuries on psychological status of worker. Repeated injuries increase mental stress and ultimately less job satisfaction.⁸

While assessing association between Job satisfaction and alcohol consumption it was found that 27.6% fishermen who thought alcohol can relieve job stress were satisfied with their job against to 58% fishermen who thought alcohol can't relieve job stress. In addition, 16.85% fishermen who thought alcohol increases work efficiency were satisfied as compared to 68.8% fishermen who did not thought that alcohol increase work efficiency. Thus majority of fishermen misbelieved that alcohol can relieve job stress and increase work efficiency. Extensive search of references was made related to alcohol consumption and job satisfaction, however no relevant studies were found and hence no comparison is made.

Among fishermen studied, 95.5% supervisors, 88.7% labours, 81.9% fishers were satisfied with their job. The University of Manchester, Institute of Science and Technology⁹ listed occupations in order of average level of stress. Individuals in professional and technical support report the highest levels of stress, followed by managerial staff. Persons in farming, forestry or fishing report the lowest stress. This ranking of stress is almost the same as the ranking of occupation by educational attainment; the exception is that sales have a higher level of education than administration, but a slightly lower reported average stress. The supervisors are decision makers and have less role ambiguity, because they are the ship owners and managers of the small venture run by themselves. They may get more satisfaction in self run business. The relationship between job satisfaction and type of job was explained in study done by Dewa et al. which on multiple regression analysis showed that managers/Professionals were at greater odds of experiencing high stress than clerical/office Workers.⁴

Among the subjects 16.5% fishermen who experience job stress were not satisfied with their job; whereas only 9.9% fishermen who do not encounter stress were unsatisfied with their jobs. Similarly, Chandraiah et al. reported that workers perceiving more job stress were less satisfied with their job.¹⁰ Kucera et al. identifies five sources of mental stress in independent commercial crab pot fishermen like pulling pots by hand, rough weather, rough water, unloading without mechanical assistance and long work days. All these factors ultimately affect job satisfaction in independent commercial crab pot fishermen.¹¹ Hendrix et al. in a study "Behavioural and psychological consequences of stress and its antecedent factors." The authors used stress assessment package developed by them to measure organizational stress, job satisfaction and turnover intentions of employees of Department of Defence and a civilian hospital. They did not find direct significant relationship between stress and turnover intentions. However, results of path analysis indicated that job satisfaction was affected by factors such as involvement in decision making, skill variety and whether work was subject to whims of supervisors.¹²

Majority (94.1%) of fishermen belonging to economic class III were satisfied with their job, followed by 80.3% of economic class IV, 58.3% in economic class V and 72.22% of economic class I & II. An increasing trend of satisfaction was not seen with increase in social class. The reason for this relationship could be that, only monetary benefits are not the factors necessary to achieve job satisfaction. Majority of fishermen in this study were into fishing because it was their ancestral occupation therefore they might had attachment with the job. It is very difficult to avert the satisfaction in the job only due to fewer amounts of catches as well as money as they might have many non-monetary benefits such as mental peace, mental satisfaction, thrill and adventure. Another aspect is that as in the study there were some fishermen less than 15 years as well, this shows that fishermen enter the profession at younger age which might develop affection towards the occupation. Therefore such non-monetary benefits may fetch satisfaction for fishermen. Similar to this finding Kohan et al. revealed that Job satisfaction was primarily associated with positive effect, life satisfaction, and self-esteem.¹³

Several researchers have suggested that non-monetary satisfactions can push the fishery beyond maximum economic yield, increasing the chances for overexploitation. Pollnac et al. in their study cited examples of fishermen who were so attached to their occupation that they refuse to leave the fishery even though their incomes are declining. They have reported a similar reluctance to change occupation among Southeast Asian fishermen. They cite numerous alternative income project failures and present evidence indicating that, contrary to the expectation of fisheries managers, fishermen are not likely to be interested in alternative employment.

They point out that fishermen interviewed in the Philippines, Indonesia and Vietnam like their occupation so much that only a minority would change to another occupation, with similar income, if it was available.¹³ Also, their analysis clearly demonstrates, factory-type jobs such as fish plant worker fail to provide the same level of satisfaction on the 'self actualization' component as commercial fishing. Fishermen would probably resist entering such an occupation, and if they did, they would probably be so unhappy that they would suffer the negative impacts of job dissatisfaction.¹⁴

CONCLUSIONS AND RECOMMENDATION

In conclusion, we observed that there are number of factors associated with experiencing job satisfaction. Among them are being more engaged with work and high job stress. Thus more mechanization in fishing work is required to decrease physical work load and ultimately physical stress among fishermen. Also, periodical health education sessions comprising of psychological training program are required to support personal competence of fishers so that they can handle mental stress. Regular training of fishermen to increase their job skills in order to decrease the job related injuries.

LIMITATIONS OF THE STUDY

The results reported in this paper should be interpreted in light of the data limitations. First, the measure of job satisfaction depended on self-report. Thus, it may be subject to reporting bias. The definition of what is satisfaction may vary by respondent. The variation may also manifest itself if there are differences in interpretations of what is satisfaction among people who are in seemingly similar contexts (*i.e.*, same sex, occupation, age).

Second, we used cross-sectional data and cannot make statements about causality. There may be confounding variables that were not captured and better explain the relationship such as personality, mental disorders or coping styles. It would be important for future research to explore the relationship of these factors to the outcome.

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APPENDICES

Tables

Table 1: Socio-Demographic Profile of Fishermen (n = 500)

Variables		Frequency
Age (years)	<15	21 (4.2%)
	15-28	174 (34.8%)
	29-42	136 (27.2%)
	43-56	138 (27.6%)
	> 56	31 (6.2%)
Religion	Hindu	483 (96.6%)
	Muslim	14 (2.8%)
	Christian	3 (0.6%)
Socioeconomic Class	Class I	2 (0.4%)
	Class II	16 (3.2%)
	Class III	171 (34.2%)
	Class IV	264 (52.8%)
	Class V	12(2.4%)

Married	Married	352 (70.4%)
	Unmarried	145 (29%)
	Separated	1 (0.2%)
	Widowed	2 (0.4%)
Education	Illiterate	105 (21%)
	Primary	121 (24.2%)
	Secondary	92 (18.4%)
	Higher Secondary	70 (14%)
	Graduate	112 (22.4%)
Type of House	Kutchha	47 (9.4%)
	Pucca	432 (86.4%)
	Live on beach	21 (4.2%)

Table 2: Distribution of Fishermen According to Job Variables, Various Materials and Tools Used (n=500)

Variables		Frequency
Type Of Job	Fishing	337 (67.4%)
	Labour	53 (10.6%)
	Supervision	110 (22%)
Total years of occupation	<10	216 (43.2%)
	11 to 20	103 (20.6%)
	21 to 30	95 (19%)
	31 to 40	63 (12.6%)
	>40	23 (4.6%)
No. of hours in the sea	1 to 5	30 (6.0%)
	6 to 10	182 (36.4%)
	>10	288 (57.6%)
Frequency going into the Sea	Daily	405 (81%)
	Weekly	44 (8.8%)
	Thrice A Week	49 (9.8%)
	Month	2 (0.4%)
No. of Big Launches	0	343 (68.6%)
	1	115 (23.0%)
	2	42 (8.4%)
No. of Small Launches	0	57 (11.4%)
	1	158 (31.6%)
	2	123 (24.6%)
	3	92 (18.4%)
	4	22 (4.4%)
	5	41 (8.2%)
Nets	0-4	185 (37%)
	5 to 8	234 (46.8%)
	>8	81 (16.2%)
Depth	Shallow	194 (38.8%)
	Deep	104 (20.8%)
	Both	202 (40.4%)

Table 3: Association of Job Satisfaction with Other Variables

		Job Satisfaction		Chi-Square Test
		Yes	No	
Marital status	Married (n- 352)	310 (88.1%)	42 (11.9%)	p value - 0.01; Significant Association
	Unmarried (n-148)	118 (79.7%)	30 (20.3%)	
Depth of sea fishing	Deep (n-298)	242 (81.2%)	56 (18.8%)	p value < 0.01; significant association
	Deep & Shallow (n-202)	186 (92.1%)	16 (7.9%)	

Table 3 – Contd.,

Can Alcohol relieve stress	Yes (n-159)	138 (86.8%)	21 (13.2%)	p value - 0.6; Non-significant Association
	No (n-341)	290 (85%)	51 (15%)	
Alcohol increase work efficiency?	Yes (n-104)	84 (80.8%)	20 (19.2%)	p value - 0.1; Non-significant Association
	No (n-396)	344 (86.9%)	52 (13.1%)	
Job stress	Yes (n- 339)	283 (83.5%)	56 (16.5%)	p value - 0.05; Significant Association
	No (n- 161)	145 (90.1%)	16 (9.9%)	
Type of job	Fishing (n-337)	276 (81.9%)	61 (18.1%)	p value < 0.01; Significant Association
	Labour (n-53)	47 (88.7%)	6 (11.3%)	
	Supervision (n-110)	105 (95.5%)	5 (4.5%)	
Socioeconomic Class	Class I & II (n-49)	44 (89.8%)	5 (1%)	p value < 0.01; Significant Association
	Class III (n-171)	161 (94.1%)	10 (5.9%)	
	Class IV (n-264)	212 (80.3%)	52 (19.7%)	
	Class V (n-12)	7 (58.3%)	5 (41.7%)	
Alcoholic Status	Yes (n-317)	258 (81.4%)	59 (18.6%)	p value < 0.01; Significant Association
	No (n-183)	170 (92.9%)	13 (7.1%)	

Table 4: Binary Logistic Regression for Job Satisfaction

Dependent Variable Encoding	
Job Satisfaction	Internal Value
Satisfied	0
Not satisfied	1

Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
Marital Status-Married	-1.981	0.407	23.74	1	1.00E-06	0.138
Type of Job			8.285	2	0.01588	
Type of Job-Fishing	0.936	0.593	2.493	1	0.114	2.551
Type of Job-Supervision	-0.607	0.875	0.481	1	0.488	0.545
No. of Big Launches	-0.735	0.386	3.632	1	0.057	0.479
No. of Nets	0.136	0.071	3.717	1	0.054	1.146
Economic class			11.438	3	0.00958	
Economic Class V	0.104	0.979	0.011	1	0.915	1.11
Economic Class IV	-0.599	0.73	0.674	1	0.412	0.549
Economic Class III	-1.776	0.776	5.233	1	0.02216	0.169
Fishing depth-Deep & shallow	-1.083	0.358	9.153	1	0.00248	0.339
Hours at sea- <5 hours	1.326	0.811	2.673	1	0.102	3.766
Job Stress-Yes	1.796	0.439	16.756	1	4.30E-05	6.028
Can Alcohol relieve stress?-Yes	-1.451	0.54	7.225	1	0.00719	0.234
Do you think alcohol increase work efficiency? -Yes	1.633	0.556	8.629	1	0.00331	5.12
Constant	-2.848	1.112	6.56	1	0.01	0.058

