

HEALTH IMPACT ON SALT WORKERS IN KANYAKUMARI DISTRICT

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Abstract

Health is wealth; if health is lost, everything is lost. It is a common phenomenon that the workers in industries suffer from various health-related problems. Salt workers are of no exception. In Kanyakumari district, salt workers suffer from different health-related problems. The expenditure for the treatment of these problems affects the saving potentiality of the salt workers. The study primarily depends on primary data collected from the sample respondents with the aid of structured interview schedule. The collected data were analysed by employing different statistical tools. The study concludes that the three problems such as cataract, underweight and dermatitis were the most important problems suffered by more than 80 per cent of the salt workers. The expenditure on ophthalmic symptom plays an important role to affect the saving potentiality of the salt workers. The safety and welfare measures provided for the workers were inadequate. The study suggests that, if the workers are provided with higher wage and protected from the health problems, the income and efficiency of the workers would increase and the salt production could be boosted up in Kanyakumari district.

Key words: Occupational health-related problems, Safety and welfare measures.

Introduction

Health is wealth; if health is lost, everything is lost. Persons with good health are the important human resources of our country for its development. However, industrial workers suffer from different types of health problems associated with the respective industry. Workers in the salt industry are of no exception. The workers, both men and women, in the salt industry face work-related health problems due to the fact that the workers are always working in the direct sunlight, inhaling salt dust particles and contact with sea- water brine in Kanyakumari district.

India is one of the leading countries, producing large quantity of salt. By producing 172 lakh tonnes in the year 2017, our country stands in the third position in the world. Salt manufacturing activities are carried out in the coastal areas of Gujarat, Tamil Nadu, Andhra Pradesh, Maharashtra, Karnataka, Odissa, West Bengal and Goa. Among these states, three states namely Gujarat, Tamil Nadu and Rajasthan produce

salt in surplus over their requirements. In Tamil Nadu, Kanyakumari district, among the other salt-producing districts, produces the least amount of 3,695 tonnes of salt in the year 2017.¹

Potential for the growth of salt industry in Kanyakumari District

Salt industry has the following potentialities for its growth.

- In Kanyakumari district, in addition to the existing salt producing area, there is possibility of extending the land area of salt production.
- The prevailing climate is highly suitable for producing salt with low cost of production in this district.
- Minor port having appropriate capacity to be constructed near Swamythoppu, can have the access to achieve the required quantity of trafficking.
- The salt industry has possibilities to practice mechanization and modernization to produce more salt.

Problems confronting the Salt Workers in Kanyakumari District

Workers in the saltern suffer from occupational health-related problems due to the nature of their work. Problems like cataract, dermatitis, underweight, ophthalmic symptom, thickness of palm and sole, back pain, poor night vision, hypertension and anaemia were very prominent in the study area. Eyesight impairment is attributed to the age factors of the workers, due to constant exposure to the sun. The safety and welfare measures provided by the manufacturers were found inadequate. The salt workers were underpaid and their living conditions were poor.

Problem Focus

The core of the problem of the present study is to find ways and means to provide safety and welfare measures to solve the occupational health-related problems in order to increase the efficiency of the men and women saltpan workers so that the domain of salt industry can be expanded and more employment opportunities could be generated to the rural mass residing at the nearby places of the salt industry, leading to develop the district economy.

Objectives

The objectives of the study are:

- (i) to analyse the occupational health-related problems of the salt workers and to examine the interrelationships and
- (ii) to analyse the safety measures provided by the manufacturers in the study area.

METHODOLOGY

Out of the total 372 salt workers in Kanyakumari district, 93 (25 per cent) workers were selected as sample by employing systematic random sampling technique. The researcher collected the primary data

¹ Compiled from the Office Records maintained in Swamythoppu, Puthalam and Kalluvizhai respectively, December 2017

with the aid of the carefully prepared interview schedule. Statistical tools like conventional tools and special tool such as multiple regression was applied to examine the impact of five identified work-related health problems and monthly household savings. This study is a cross-section study and pertains to a period of one calendar year from January 2017 to December 2017.

Results and discussion

1. Occupational health-related problems

Salt workers are affected by occupational health-related problems like contact with salt crystals and brine, physical stress, sunlight and glare due to sunlight reflected by salt crystals. It is evident from few studies made in Gujarat and Rajasthan that 70 to 85 per cent of the salt workers suffered from one or more morbid conditions. The salt workers face occupational risk factors for a number of morbid conditions including back pain, hearing losses, chronic obstructive lung diseases, injuries, cancer and leukemia. like musculoskeletal, ophthalmic, dermal and other morbidities. In Agasteeswaram taluk, salt workers were vulnerable to different morbid conditions and occupational health related problems, at the aggregate level, as mentioned in Table 1 .

As seen in Table 1, out of the total 93 sample respondents, 82 (88.17 per cent) suffered from the problem of cataract, 77 (82.79 per cent) suffered from underweight, 80 (86.02 per cent) from dermatitis and so on. Among the 82 (88.17 per cent) respondents who have been affected by cataract, 51 (62.19 per cent) were male and 31 (37.01 per cent) female. Out of the 77 (82.79 per cent) respondents who were affected by underweight, 52 (67.53 per cent) were male and 25 (32.79 per cent) female. Of the 80 dermatitis-affected respondents, 59 (73.75 per cent) were male and 21 (26.25 per cent) were female.

Table 1 Occupational health-related problems among the respondents

Occupational health related problems with morbidity	Gender		Affected persons out of 93 sample
	Male (57)	Female (36)	
Anaemia	34 (60.71)	22 (39.29)	56 (100.00) [60.22]
Vision			
Cataract	51 (62.19)	31 (37.01)	82 (100.00) [88.17]
Ocular	27 (61.36)	17 (38.64)	44 (100.00) [47.31]
Poor night vision	33 (64.71)	17 (35.29)	51 (100.00) [54.84]
Body			
Hypertension	39 (63.93)	22 (36.07)	61 (100.00) [65.59]
Underweight	52 (67.53)	25 (32.47)	77 (100.00) [82.79]
Obesity	29 (67.44)	14 (32.56)	43 (100.00) [4.246]
Thickness of palm and sole	31 (65.96)	16 (34.06)	47 (100.00) [50.54]
Skin			
Dermatitis	59 (73.75)	21 (26.25)	80 (100.00) [86.02]
Vitiligo	9 (69.23)	4 (30.77)	13 (100.00) [13.98]
Other symptoms			
Clubbing	10 (83.33)	2 (16.67)	12 (100.00) [12.90]
Tremor	6 (75.00)	2 (25.00)	08 (100.00) [08.60]
Varicose veins	5 (71.43)	2 (28.57)	07 (100.00) [07.53]
Lcterus	3 (50.00)	3 (50.00)	06 (100.00) [06.45]
Joint pain	38 (62.30)	23 (37.70)	61(100.00) [65.59]
Caries teeth	37 (61.67)	23 (38.33)	60 (100.00) [64.52]

Source: Primary data

Note: Figures in parentheses are percentages to row total

Figures in square bracket are percentages to 93 respondents

were female. It is inferred that more than 80 per cent of the respondents suffered from work-related problems such as cataract, underweight and dermatitis in the study area.

2. Impact of work-related health problems in terms of monthly expenditure on household savings (Multiple regression)

The impact of monthly expenditure relating to the work-related health problems on monthly household savings of the selected sample salt workers is studied with the aid of multiple regression analysis. Multiple regression refers to the determination of statistical relationship between two or more variables. Here, the multiple regression is designed to examine the relationship of amount of monthly household savings (Dependent variable: Y) and the monthly expenditure incurred by a set of work-related health problems like ophthalmic symptoms, dermatological treatment, headache, joint pain and breathlessness (Independent variables: X₁, X₂, X₃, X₄ and X₅). Here, the multiple linear equation formed is: $Y = a + bX_1 + cX_2 + dX_3 + eX_4 + fX_5$. The values in the multiple regression is shown in Table 2.

Table 2 Statistical relationship between amount of monthly household savings and the monthly expenditure incurred by a set of work-related health problems (Multiple regression model)

Variables	Unstandardised coefficients	Std. Error of B	Standardised coefficients	t-value	p-value
Constant	424.179	16.915	-	25.078	0.000**
X ₁	-0.675	0.292	-0.236	-2.308	0.024*
X ₂	-0.758	0.354	-0.233	-2.140	0.036*
X ₃	-0.103	0.326	-0.035	-0.315	0.753
X ₄	-0.741	0.326	-0.231	-2.273	0.026*
X ₅	-0.970	0.420	-0.215	-2.311	0.024*

Note: ** Significant at 1% level

* Significant at 5% level

Multiple R value: 0.736

R Square value: 0.542

Adjusted R² value: 0.512

F value 17.985

As noted in Table 2, the multiple R value is 0.736, measuring the degree of relationship between the actual values and the predicted value of the amount of monthly household savings. This value conveys a strong and positive relationship between the savings and the five identified work-related health problems. R² value (0.542) measures the goodness of fit of the regression model and shows that about 54.2 % of the variation in the monthly household savings (Y) is explained by the work-related health problems. R² value is significant at 1% level. On the basis of the coefficient values found in Table 4.13, a multiple regression equation is formed as:

$$Y = 424.179 - 0.675X_1 - 0.758X_2 - 0.103X_3 - 0.741X_4 - 0.970X_5$$

The coefficient of X₁ = -0.675 represents the partial effect of the expenditure on ophthalmic symptoms on the amount of monthly household savings, holding the other independent variables constant. The estimated negative sign implies that such effect is negative that savings would decrease by 0.675 times for every unit increase in the expenditure on the ophthalmic symptoms. Similarly, the negative sign in the remaining coefficients of the variables would decrease the savings by 0.758 times, 0.103 times, 0.741 times and 0.970 times respectively for every unit increase in the expenditure on respective independent variable. All the independent variables except 'headache' are significant at 5% level.

Based on the standardized coefficient, ophthalmic symptoms (-0.236) is the most important problem to influence negatively the monthly household savings, followed by other problems. Normally, it is the pronouncement that savings and expenditure are negatively correlated: if expenditure increases, savings fall and vice versa. This negative correlation between expenditure on different health problems and savings is proved in the multiple regression model analysed by the researcher.

3. Safety and Welfare Measures Provided for the Salt Workers

Safety as well as welfare measures are quite essential to be provided for the salt workers in the study area. Different types of safety and welfare measures provided for the workers are explained below.

3.1 Safety measures

(i) Gloves: Gloves is a hand-wear covering the hand and wrist, used for the salt workers to protect the salt workers from sore ulcer.

(ii) Boot: Boot in salt work means a boot-wear, covering the whole boot and lower leg, protects the workers involved in making cement paste.

(iii) Cap: Cap means a close-fitting hat used by the salt workers to protect them from the direct sun light.

(iv) Spectacles: Spectacles is an optical instrument consisting of a frame that holds a pair of lenses, Spectacles is useful for the salt workers to prevent eyes from cement dust.

4.5.2 Welfare measures

(i) Job security: Job Security gives an incentive to the salt workers to work efficiently. As salt industry is unorganized, job security for the workers is a rare phenomenon. Among the sample (93) salt workers, six (6.45 per cent) workers had been permanently employed. Workers union was totally absent.

(ii) Bonus: Bonus, as an incentive, is the financial motivation, which increases the workers' productivity that maintains good relationship between producers and workers. Bonus is paid on the basis of experience of the workers.

(iii) Medical allowance: Medical allowance is a sum granted as reimbursement for medical expenses incurred by the salt workers

(iv) Loans and advances: In a private concern, giving loans and advances to its workers is supposed to be an instrument to retain the workers permanently.

The safety and welfare measures so far provided for the salt workers are furnished in Table 3.

Table 3 depicts that, at the aggregate level, as far as safety measures are concerned, out of 93 respondents, 58 (62.36 per cent) were provided with cap; spectacles were provided

Table 3 Safety and welfare measures provided for the salt workers

Measures	Salt workers		Total (93)
	Men (66)	Women (27)	
(i) Safety measures			
Gloves	7 (10.06)	2 (7.40)	9 (9.67)
Boot	4 (6.06)	-	4 (4.30)
Cap	41 (62.12)	17 (62.96)	58 (62.36)
Spectacles	9 (13.63)	3 (11.11)	12 (12.90)
Total	61 (92.42)	22 (81.48)	83 (89.25)
Average	15. 25 (23.10)	7. 33 (27.16)	20.75 (22.31)
(ii) Welfare measures			

Job security	4 (6.06)	2 (7.40)	6 (6.45)
Bonus	23 (34.84)	14 (51.85)	37 (39.78)
Medical allowance	11 (16.67)	7 (25.92)	18 (19.35)
Loans and advances	8 (12.12)	3 (25.92)	11 (11.82)
Total	46 (69.70)	26 (96.30)	72 (77.42)
Average	11.50 (17.42)	6.50 (27.02)	18.00 (19.35)
Grand average	26.75	13.83	38.75 (41.66)

Source: Primary data

Note: Figures in parentheses are for men workers, women workers and total workers respectively

for 12 (12.90 per cent) respondents; 9 (9.67 per cent) were given gloves and only four (4.30 per cent) respondents boot exclusively meant for men workers. Regarding the welfare measures, 37 (39.78 per cent) respondents were provided with bonus; followed by 18 (19.35 per cent) respondents having obtained medical allowance; 11 (11.82 per cent) loans and advances and only six (6.45 per cent) respondents obtained job security. Taking into account the grand average, at the aggregate level, only 41.66 per cent of the salt workers have been provided with the safety and welfare measures in the study area. It is inferred that the implementation of safety and welfare measures were found to be inadequate in the study area.

CONCLUSION

Salt industry in Kanyakumari district has been experiencing de-growth rate since the year 2004 in which tsunami took place. At present, only 372 workers are working in the salt industry. The present study conducted with 93 sample respondents reveals that the salt workers have faced different work-related health problems and the safety and welfare measures provided to the workers were found to be inadequate. If the workers are given higher wages at the desired level and are protected from the health problems by providing and implementing adequate safety and welfare measures, the income of the workers could increase and efficiency of the workers would improve on the one hand and the salt production could be boosted up on the other, leading to increase the district economy.

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