

HEALTH PROFILE AND LIFESTYLE PATTERN OF SALTPAN WORKERS IN THOOTHUKUDI DISTRICT OF TAMIL NADU

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ABSTRACT

The study was conducted to find out the health profile and lifestyle pattern of saltpan workers in Thoothukudi district of Tamil Nadu. A total of 250 saltpan workers, including both men and women, was carefully chosen randomly from the saltpan areas of Veppalodai, Pattinamaruthoor, Tharuvaikulam and Mullakadu. A pretested interview schedule was used to draw the various information from the saltpan workers. The prevalence of consumption of alcohol and cigarette smoking was found to be very high among the group of men workers. Programmes that address the use of these substances should be made available for these men workers. Food-related behaviours such as delaying or skipping meals and prolonged labour were also related to low intake of water. Low water intake was associated with various unhealthy behaviours, including low levels of physical activity and low levels of food intake. The majority of the respondents had the habit of self-medication for their illnesses due to poor educational background, lower socioeconomic status, non-availability of medical conveniences, easy availability of drugs and lack of exposure and awareness on the importance of nutrition for health.

Keywords: Saltpan workers, Health profile, Lifestyle pattern, Self-medication.

INTRODUCTION

Thoothukudi district occupies a very significant place in the history of the salt industry in India because of its geographic location and other favourable factors. The North East Monsoon prevailing in this region is comparatively weak, dry climate is fair and the average rainfall in Thoothukudi district provides an uninterrupted manufacturing of salt for 8 to 9 months in a year. The salt industry is the main backbone of economic development of the district and was also extended in an area of 20,000 acres with production of 17.12 Lakhs M.T (Madhu, 2006). These salt pans are developed in lands leased either by the Central or by the State Government. Apart from this, about 8,000 acres of private lands are converted into salt pans (Vrutti, 2007). The salt pans are spread over 22 villages in Thoothukudi district and it has the highest number of salt workers in the state and also generates the maximum production of salt in Tamil Nadu. However, the salt industry of this district is labour intensive whereas the saltpan workers are living with very poor household income due to seasonal employment, inadequate skills, insufficient access to state resources, no coverage of state safety network and other programmes. The living conditions of the workers are pathetic with the denial of basic amenities to sustain the standard of living, making them prone to numerous health problems. Persistent poverty, indebtedness and deprivation are common to all the saltpan workers, the women, as in many other poor communities, become greater victims of poverty in Thoothukudi district. The workers who worked with dry salt in the vicinity of salt milling plants are called as "non-brine workers," while those working on brine pans located far away from milling plants are known as "brine workers". Many times, the saltpan workers are forced to play both roles and they work closely with salt milling plants. The seasonal workers work during the whole season and perform all kinds of activities on a pan. In the beginning of the season, the workers get a small amount as wages and the remuneration increases as the production of the salt increases with temperature. In addition to this, the saltpan workers work in direct sunlight, i.e. on high temperature, throughout the working hours and hence they need more water per day than any other works.

The average water needs for a physical worker in a hot climate may need as much as 15 litres of water per day, though (Grandjean, 2003). Williams, *et al.*, (2001) reported that estimates of mean water intake rates reported in the literature range from 4.04 to 4.63 L/person/day in hot temperate climate. Humans ingest water as plain drinking water, beverages, in food during preparation and also produced by metabolism. All contribute to the "total water intake." Unfortunately, there is a paucity of data on total water consumption. The data that do exist show considerable variation in intakes both within and between individuals. Studies in humans have shown that numerous factors affect fluid intake (Ramsay and Booth, 1991 and Rozin and Cines, 1982). Excessive and prolonged smoking and alcoholic consumption will lead to innumerable health vulnerabilities. In addition, self-medication was also common among the workers, but it is far from being a completely safe practice, in particular in the case of non-responsible self-medication. There are potential risks of self-medication practices such as incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and the risk of dependence and abuse. Furthermore, the

salt workers of this district are facing many problems related to their nutrition and health conditions. The present study was taken up health profile and lifestyle pattern of saltpan workers in Thoothukudi district of Tamil Nadu.

METHODOLOGY

Thoothukudi district was selected for the study because the salt industry is the major work in this district. The study was carried out in 4 saltpan areas, namely Veppalodai Pattinamaruthoor, Tharuvaikulam and Mullakadu. The sample of the study consisted of 250 saltpan workers, including both sexes in the age range of 20 to 59 years and were selected by using random sampling method. The saltpan areas selected had similar socioeconomic status, working and living conditions and had comparable access to the worksites. The interview schedule was pre-tested with 20 saltpan workers of non-sampling areas before commencing the actual investigation to screen for potential problems in the interview schedule and to get an idea about responses to the questions. Information on skipping meals, delayed meals, fluid intake, minor illness or diseases and self-medication for such illness and diseases were also recorded in detail. The information on lifestyle habits, namely smoking and alcohol consumption were gathered.

RESULTS AND DISCUSSION

Health Profile

Dehydration is the adverse consequence of inadequate water intake. The symptoms of acute dehydration vary with the degree of water deficit. Difficulty in concentrating, headache and sleepiness were observed at 5 percent. Tingling and numbness of the extremities can be seen at 6 percent and collapse can occur at around 7 percent dehydration. A 10 percent loss of body water through dehydration is life threatening (Sawka and Montain, 2001). During the six-day War of 1967, more than 20,000 Egyptian soldiers died from heat stroke. Egyptian troops were following the practices of strict water rationing. During the same time, Israeli troops with abundant field water supplies and command-enforced water policies had minimal heat casualties. While the vague discomfort that accompanies a 2 percent dehydration may not have a significant impact, the 20 – 30 percent reduction in work capacity seen at 4 percent can have a significant negative impact on productivity (World Bank, 1998).

Type and quantity of fluids consumed

Water intake included that which is consumed as food and beverage, along with relatively small volumes of water created by oxidation of food (metabolic water) and the breakdown of body tissue. Determining actual water consumption is difficult for a variety of reasons, one being that many of the published reports are for total water use (drinking water, water used for basic hygiene, etc.). The Table 1 shows the quantity of water intake by the saltpan workers.

Table 1. Quantity of water intake

Water intake (in Litre)	Men (n=121)		Women (n=129)	
	No.	%	No.	%
<2.0	29	23.97	27	20.93
2.0-3.5	86	71.07	93	72.09
>3.5	6	4.96	9	6.98

It was observed that the majority of the men (71.07 %) and women (72.09%) respondents took 2.0-3.5 litres and only 4.96 percent and 6.98 percent of men and women workers drank above 3.5 litres of water daily, whereas during summer it was found to be 4 litres/day. Heavy physical workloads can also pose a threat of heat fatigue among the workers, which is likely to increase the risk of accidents and injuries at the worksites (Lin and Chan, 2009). A physical worker in a hot climate may need as much as 15 litres of water per day, though (Grandjean, 2003). Whereas the men and women respondents working in the saltpans had water not more than 4 litres/day.

The type and quantity of beverages consumed by the selected saltpan workers are presented in Table 2 and 3. It is observed from the Table 2 that almost all the men and women saltpan workers consumed tea than coffee and carbonated beverages in their worksite.

Table 2. Type of beverages consumed by the saltpan workers

Beverages *	Men (n=121)		Women (n=129)	
	No.	%	No.	%
Coffee	14	11.57	9	6.98
Tea	121	100	120	93.02
Carbonated beverages	6	4.96	0	0

*Multiple Responses

The quantity of beverages consumed by the respondents is presented below. The present study revealed that all the men and women workers consumed tea. Of the selected saltpan workers, about 94.19 percent of them consumed 5-7 cups (625 ml-875 ml) of tea per day.

Table 3. Quantity of beverages consumed

Quantity*	2-4 cups		5-7 cups	
	No.	%	No.	%
Coffee	23	100	0	0
Tea	4	5.81	187	94.19
Carbonated beverages	6	100	0	0

*Multiple Responses

The consumption of tea or coffee with a meal led to a decrease of iron absorption from 41 percent to 95 percent below that when they are not used (Nelson *et al.*, 2007). Rajurkar *et al.*, (2012) articulated that the health conditions of working women is not satisfactory. As mentioned in a survey conducted in the city of Bhubaneswar, it was observed that out of 50 domestic workers, 20 percent had stomach problems due to the irregular intake of food and high consumption of tea.

Lifestyle pattern

The respondents had also reported that poor sanitation and water amenities were the frequent problems in the residence as well as in the worksite. If at all temporary sanitary and potable water facilities present, they were usually unisex, often without privacy and generally not well maintained in the worksite.

Smoking and alcoholism

The details of smoking and alcoholism among the respondents are documented in Table 4. Smoking is the biggest risk factor for sudden deaths and the risk of heart disease is ten folds greater for a smoker who is under 50 years than a non-smoker of the same age (Oh, 2005). It is discouraging to note that habit of smoking witnessed in the majority (96.69 %) of the men workers, which was more than the national prevalence (57 %) as per the National Family Health Survey 2005-2006 (John *et al.*, 2004).

Table 4. Smoking and alcoholism among the selected men saltpan workers (n= 121)

Lifestyle habits	No.	%
Smokers		
Yes	117	96.69
No	4	3.31
χ^2	13.51*	
Alcohol users		
Yes	106	87.60
No	15	12.40
χ^2	13.01*	

*Statistically significant at 5% level

Psychological ill health is also common with high rates of alcohol and drug abuse (Hermansson *et al.*, 2003). In this study, it is to be inauspicious to note that 87.60 percent being the majority of the men workers consumed alcohol. The workers misuse their money for alcohol, as they do not have any other recreation.

In the present study, excessive and prolonged smoking and alcoholic consumption found to be high. Improper lifestyle habits owned by the respondents such as smoking (96.69%) and alcoholism (87.60%) by most of the men workers were statistically significant at 5 percent level (13.51 and 13.01). Hence, the result epitomizes the pattern of health problems among saltpan workers, which would lead to further development of health promotion strategies for saltpan workers. Moreover, it was observed that there were poor welfare services and lack of health, hygiene and ergonomic measures taken by the saltpan owners for legal protection of the workers. According to Hermansson *et al.*, (2003), the consumption of alcohol was reported by 14.65 percent of the shift workers and is less than the national estimate of 21 percent as per the National Household Survey on Drug Abuse (NHSDA). Whereas, the results of the existent study surpassed the margin of NHSDA.

Self-medication for minor discomforts

The Table -5 shows the Self-medication for minor discomforts of the respondents. All the men and women respondents found to control their urges for nature's call and thirst, thus self-allying themselves to fever, urinary tract infections, electrolyte imbalances and some much health disorder.

Table 5. Self-medication for minor discomforts

S.No.	Self-Medication for minor discomforts*	No.	%
1.	Cold	121	48.40
2.	Cough	158	63.20
3.	Headache	187	74.80
4.	Stomach pain	64	25.60
5.	Dyspepsia	20	8.00
6.	Diarrhoea	194	77.60
7.	Vomiting	46	18.40
8.	Fevers	222	88.80
9.	Body Pain	238	95.20
10.	Minor respiratory problems	102	40.80
11.	Urinary Tract Infection (UTI)	56	22.40
12.	Other Minor Illnesses	69	27.60

*Multiple Response

Moreover, they had the habit of self-medication for their illnesses such as body pain (95.20%), fevers (88.80%), diarrhoea (77.60%), headache (74.80%), cough (63.20%), cold (48.40%), minor respiratory problems (40.80%), other minor illnesses such as constipation, nausea, fatigue, anorexia etc., (27.60%), stomach pain (25.60%), urinary infection (22.40%), vomiting (18.40%) and dyspepsia (8.00%). Nevertheless, the agonizing fact was that they afraid to disclose pain/discomfort, lest other family members because may not permit them to work. Therefore, they had to work at a stress. It also found that most of the respondents took meals delayed or sometimes starved due to prolonged labour.

Reasons for Self-Medication

The Table 6 designates the reasons for self-medication among the respondents.

Table 6. Reasons for Self-Medication

Reasons for Self- Medication*	No. of Household	Percentage
Economic	242	96.80
Non-availability of health services	13	5.20
Effectiveness of the drug	193	77.20
Ignorance	115	46.00
Others	9	3.60

*Multiple Response

The major reasons for self-medication were economic (96.80%), effectiveness of the drug (77.20%) and ignorance (46 %). However, very few saltpan workers stated the non-availability of health services (5.20%) in their regions. Reasons for wide disparities may be due to low illiteracy, poor socioeconomic status, non-availability of medical facilities and easy accessibility of drugs.

Conclusion

Low drinking water intake was allied with various unhealthful behaviours, including low levels of physical activity and low levels of fruit and vegetable intake. Food-related behaviours such as delaying or skipping meals were also related to low drinking water intake. Sometimes they also had to drink saline water most of the time. Further studies of population samples with greater ability to assess differences in water intake was the distance between residence and worksite because they have to carry drinking water pots to the worksites. The results suggest that low drinking water intake is common and is associated with known unhealthful behaviours. Enhance workplace amenities, for example, access to consumable drinking water, portable restorative facilities, protective gears, sanitation and rest sheds may be made available to them. Clinical and public health practitioners directing to help people drink more water should consider low water intake as part of a group of detrimental behaviours and attitudes. Intuitively, smoking and heavy drinking have a positive effect on an individual's health and marginal productivity. Some of the empirical results were unexpected, especially, like the outcomes of self-medication. Medicines nowadays can renovate health and mend the quality of life; on the other hand, if it is not used decorously, it can cause serious harm to the body. Very many people end up in hospital and fail to get better because they have not taken or used their medicines properly. World Health Organization acknowledges the existence of an effective role of self-medication. Lack of drug information and accessibility to over-the-counter drugs without any health professional guide contributed to the high incidence of self-medication. Enforcement of regulations in drug distribution and provision of appropriate health education to the community at large is life-threatening. And also the majority of the empirical results are in line with previous research, such as the positive liaison between the wage of an individual and the

age, level of education, years of work. Also clinched from the empirical results is that there is a noteworthy relationship between smoking and drinking alcohol with wages in families of the men workers. In addition to this, the self-medication distresses the quality of life of the saltpan workers.

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