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## A Study on Occupational Health Hazards of Workers in Salted Vermicelli Industry (Namkeen) in India

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### Abstract

Namkeen is a traditional Indian Snacks. Apart from being a popular snack item, it aids in digestion too due to the presence of various spices in it. It is made by gram flour. Spices and other additives are added to the gram flour to make the dough. The dough for Namkeen is made to pass through a simple extruder which makes fine strands of the dough. The strands are fried in the frying pan in hot cooking oil. Excess oil is removed after frying and the Namkeen is packed. For making Bhujia, boiled and mashed potatoes are added to the flour mixture. Most of the namkeen industries except branded are in unorganized sectors in which large numbers unskilled workers work in adverse conditions. The health and safety measures are not taken into consideration during work. The working environment is not conducive which causes many health and safety hazards among the workers who are ignorant and unaware about these facts. Thus the present study was undertaken with the following objectives: To study the impact of work environment on health status of workers in Namkeen industry to improve the existing health and safety practices through need based interventions. The present study was undertaken in Indore city of madhyapradesh in India. The sample comprised of 200 Male youth workers between the age group of 19-27 years. Purposive sampling method was used. A self prepared questionnaire was administered for the study. The results showed that the workers sat in front of furnace for as long as 14-20 hours per day to fry the namkeen which caused decrease in their working efficiency. Regarding their physical aspects 95% of the respondents reported fatigue, 45% skin problems, 68% burning sensation in eyes 31% allergy and 78% pain and burning sensation in lower abdomen. To improve the existing health and safety practices interventions were given for health and sanitation, Health check - up were conducted and group counseling was done to create awareness among the respondents. Occupational health and safety trainings were also imparted. The namkeen industries of unorganized sectors do need safety and health intervention and also safety guard's should be provided for increasing the efficiency of work. The employers should see to the health and sanitation aspects. A dire need was felt by the researchers to generate awareness and improve skills for betterment of living conditions.

**Keywords:** Musculoskeletal disorders; working capacity; fatigue; skin problems.

### Introduction

Namkeen is a traditional Indian Snacks. Apart from being a popular snack item, it aids in digestion too due to the presence of various spices in it. It is made by gram flour. Spices and other additives are added to the gram flour to make the dough. The dough for Namkeen is made to pass through a simple extruder which makes fine strands of the dough. The strands are fried in the frying pan in hot cooking oil. Excess oil is removed after frying and the Namkeen is packed. For making Bhujia, boiled and mashed potatoes are added to the flour mixture. Most of the namkeen industries except branded are in unorganized sectors in which large numbers unskilled workers work in adverse conditions.

Indore is famous for its food items. People of Indore and Malva region are considered to be found of rich food. Namkeen and sweets of this place is famous all over India. Traditionally, Indore is famous for namkeen only. Presently, in Indore and nearby regions almost 300 to 500 units are involved in various areas of namkeen making. Annual turn over from this business in Indore is rs 350 to 380 crores and 6000 people are involved in it directly and indirectly 12000 people are getting employment through it. Due to limited resources this industry is restricted to homes as cottage industry and has only local consumers. Maximum units are running in homes. Raw material is no problem for this industry. It mainly depends on human labour. Maximum preparation of namkeen is done by hands only. Simple machines are also used sometimes. Presently, namkeen makers have limited resources so marketing region is also restricted.

### 1.1 Indore

Indore city was named so in 18<sup>th</sup> century after Indreshwar temple. It is situated in centre of country so weather in winters is extremely cold and in summers its too hot. Its geographical area is nearly 3898km<sup>2</sup>. It is commercial capital of Madhya Pradesh. It comes in modern and busy cities of India. From last few years it is also known as educational centre. There are some reputed engineering and management institutes in Indore like IIM. Historical palace of hawker age, Lal Bagh, Rajwada palace and training institute of Indian army, mhow all are situated in Indore.

### 1.2 Types of firms

Today 'Indore Namkeen Bazaar' has become famous and holds a special position but only small scale industrialists are involved in it. Maximum 6 large industrial units are found registered in this business. Namkeen prepared here is very tasty. It is demanded by all who have ever tasted it. Due to less knowledge, less opportunity and unavailability of modern technology local namkeen businessmen are satisfied with local market only. Most of these businessmen are less educated and have less information about latest techniques, trends etc. according to Indore namkeen and sweets makers association, here 359 namkeen making units are operative. Every unit produces 200 to 2000 kg namkeen everyday. This means that 1.2 lakh ton namkeen is produced in Indore every day.

### 1.3 Main products of Namkeen business are

- **Sev**
  - Kali mirch sev – 3 types
  - Ujjaini sev
  - Tamato sev
  - Coriander sev
  - Garlic sev
  - Potato sev
  - Ginger sev
- **Mixture** – 9 types
- **Papadi** – 3 types
- **Garm masala** – 4 to 6 types
- **Moong dal** – 3 types
- **Groundnuts** – 3 types
- **Potato chips** – 6 to 7 types
- **Mathri** – 4 types

### 1.4 Employment

Directly 6000 labours are involved in namkeen making and 12000 labours are engaged in indirect work like marketing, transportation etc.

### 1.5 Turn over

As already mentioned above, the number of industries involved in namkeen making is almost 350. each industry produce 500kg namkeen on an average. This means that almost 63000 ton namkeen is prepared in Indore annually. Namkeen is sold at the price of rs 60 to 80 per kg. if the selling price is considered to be Rs. 60 per kg then also turnover of this business is Rs. 380 to 400 crores annually. Today this namkeen is easily available in India and abroad.

This research is a small effort to present the situation, problems and needs of the labours associated with namkeen business in front of public so intellectuals, government and organizations can raise steps toward them. Many young people of Railmagra, tehsil of Rajsamand (Rajasthan) are associated with this work. Geographically, Railmagra is plain

region where agriculture can be done. But due to water scarcity from last 10 years, employment has become a big problem for residents. Only option left before them is to do labour out of their village. Railmagra tehsil is area abundant with OBCs among 7 tehsils of Rajsamand. In this tehsil there is no other means of earning money rather than migrating from here. It is common phenomenon here to migrate and do business or other activity.

People who have moved out of Railmagra for their own business like hotel industry, caterers and shopkeepers have made a tradition. They prefer sub-ordinates from their own village. This system enables youth to get attached to these businesses. Many joined business as labour and with time appointed other labours and themselves working as contractors or employers.

## 2. Objectives

1. To study the impact of work environment on health status of workers in Namkeen industry.
2. To improve the existing health and safety practices through need based interventions.

## 3. Methodology of the Study

### 3.1 Sample of the study

In present study, information was collected from 200 labours involved in namkeen business by using purposive sampling method.

### 3.2 Area of study

Present study was done in Indore of Madhya Pradesh state, India. Maximum number of youth from this area are involved in tasks related to namkeen making. The age range of respondents was below 20 to nearly 50 years.

### 3.3 Tool used

A self prepared questionnaire covering different aspects of occupational health hazard was administered on the selected respondents. The data was analyzed on the basis of means and averages

## 4. Results

The results are presented in two sections

### 4.1 Background information

#### 4.1.1. Age group

Namkeen business need high physical exertion and power which is normal for young people. Majority I.e. 62% of the respondents were between the age of 19-27 years Namkeen business need high physical exertion and power which is normal for young people.

#### 4.1.2 Education

Most of the namkeen labours were illiterate. Only 34% of labours were educated up to primary class. Its reason may be social background also because 96% respondents belong to backward classes which are already away from education and mainstream of country

#### 4.1.3 Marital status

The laborers came from background where early marriages took place and so 93% of total respondents were married.

#### 4.1.4 Information on the basis of work

Three categories were found on the basis of vocational experience and talent of the labourers involved in namkeen

making business. When labour got involved in this business initially he works as labour. With time and experience they are promoted to karigar, whose work is specialized and work only in one field in comparison to the labour who works in number of fields. Wages of karigar are little higher than labours.

It is considered that working for long time in this field increases value of the person along with experience and thus the respondents start taking contracts and is known as contractor- here he is in position to employee others. Analysis of research showed that there are only 6% respondents who have reached to the status of the contractor from labours.

**4.1.5 Monthly Income**

Migrant attached with big namkeen shops sometimes work with contractors and sometimes as venders. In all situations their monthly income is very less, ranging between Rs. 2000-6000/- per month. A very little amount is saved after meeting their daily expenditures.

When the researchers investigated on the Place of living. It was found that Migrant families do not have permanent or owned house. Maximum labourers lived in rented houses. It was also observed that 4 to 5 people live in one small room so that the rent is shared. Some migrant labours also told that they live in godowns or workplace of their contractor.

**4.1.6 Information about workplace**

People associated with namkeen business have to take special care of cleanliness, hygiene and standards. Because namkeen produced is served and consumed by common people. But on contrary, if working situations of migrant labours are seen then we will be forced to re-think that what is the real picture behind tasty namkeen and food stuff we eat. Place are so dirty that generally standards of cleanliness are not maintained. There are no safety measures and they work in accident prone places.

Among facilities available at workplace, resting place for labours when exhausted is very important but 85% respondents told that there is no such place at their workplace. Likewise when they were questioned about the availability of first aid box then 95% respondents denied to have such facility available. Accidents like cuts in hands and fingers, splitting of hot oil and hot water on body is common.

The indoor air quality of the work place was very poor. The NOx readings were above the tolerable limit. Presence of CO was also detected which is very dangerous to health of an individual.

**Table 1:** Simple safety measures used by workers

S. No.	Details	Resting place	First aid box	Fire extinguisher	Glass	Apron
1.	YES	85	05	10	02	0
2.	NO	15	95	90	98	100

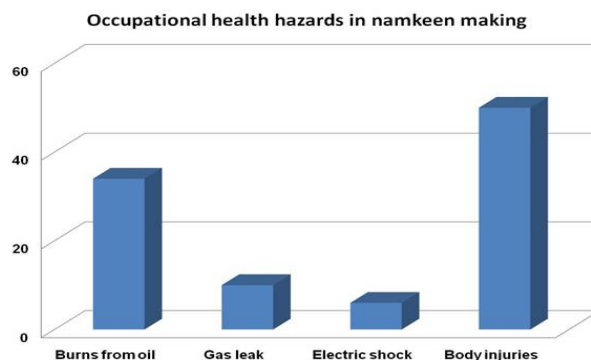
Fire extinguisher is also very important security aid which should be available at accident prone place. Almost 90% reported that no such facility was available at their workplace. Glasses and aprons were also found unavailable which save body from damage due to accident and fire. It was also observed that workers and employers both was unaware about the security at workplace. This is the reason that 55% have suffered from one or more accident at workplace. The reason being have no knowledge in reference to safety measures for accidents.

**4.1.7 Illness and accidents at workplace**

There is always probability for illness and accidents at workplace of namkeen business. Reasons being Temperature of furnace, Hot oil, slippery floor, absence of ventilation, absence of safety measures all contribute to such environment where accident can occur anytime. On this basis when respondents were asked about illness due to workplace 55% respondents agreed that they got ill due to working conditions at workplace. 42% labours said that when they get ill they take treatment from untrained Bengali doctors.

**4.2 Occupational Health Hazard.**

Fifty four per cent namkeen labourers said that they met with accident. Observation during research and group discussions revealed that accidents here means some big accidents like serious burns on limbs or face, any damage to body or cutting of limbs. The same has been clearly depicted in the fig below.



As clearly shown in the fig. the highest occupational hazards were bodily injuries i.e. 50% followed by oil burns (34%) and the least hazards were reported from electric shocks.

**4.2.1 Effect of business on health**

Migrant labours involved in namkeen business have to sit near burners for hours in which physical exertion is there along with utilization of energy. Negative impact on health is seen after sometime due to continuous working in adverse conditions. Respondents when asked whether they feel tired and fatigued due to this occupation, maximum respondents were of the view that they were over exerted (95%), had skin problems (40%), irritation in eyes (68%),eczema and allergy was a problem for 31% of the respondents, some of them also reported urine infections and pain in genital organs.

Thus it can be conclude that the namkeen making occupation is very hazardous and the owners employing labours must see that their workers live safe and healthy life. Awareness camps must be organized he employees of this industries for using personal protective clothing and accessories. There is a need to establish counseling centers

**4.3 Suggestions**

- 1) Create awareness in labours and employers in reference to precautions at workplace, basic cleanliness and hygiene and rights at work place.
- 2) Need to establish health camps and counselling centres.
- 3) Need of networking at the level of Indore city.
- 4) Need to sensitize employers, security standards to be maintained at workplace and to make basic requirements available.
- 5) To organize migrant labours involved in namkeen business so that they can put forward their problems.

- 6) Need to have interference in general health and reproductive health of migrant families especially women.

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