



# An assessment of the knowledge, attitudes and practices about the prevention of occupational hazards and utilization of safety measures among meat workers in a city of Haryana state of India

## KEYWORDS

Occupational hazards, knowledge, attitude, practices

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## ABSTRACT

**Objective:** To assess the knowledge, attitude and practices among meat workers about occupational hazards in a city of Haryana, India. **Methods:** This was a cross-sectional descriptive design. The population comprised of meat workers who are actively involved in meat selling in the city of Faridabad, Haryana, India. Convenient sampling technique was used in selection of the subjects. A face to face interview was conducted for the collection of information. **Results:** A total of 293 meat workers were interviewed. About one fourth (26.4%) of the respondents were in the age group of 41-45 years. The knowledge about occupational hazards scores was higher for physical hazards than chemical, muscular, psychosocial and safety hazards. The meat workers had good score for practices about occupational hazards before starting the work than during work and after the work. The mean scores about attitude towards the occupational hazards were good among the respondents. There was significant relationship between knowledge and practice score ( $r=0.69$ ,  $p=0.0001$ ) as well as practice and attitude scores ( $r=0.88$ ,  $p=0.0001$ ). There was significant positive correlation between knowledge and attitude scores. **Conclusion:** The health personnel's responsibilities towards prevention and control of occupational hazards are inadequate. There is therefore, the need of occupational safety regulations and enforcement across all animal related occupations and need for occupational health taskforce to ensure compliance from the health personnel. Also, there is a substantial need for inter-disciplinary collaborative research and/or sharing of information between workers, health agencies and policy makers for healthy workforce.

## INTRODUCTION

Approximately 75% of the world labour force is living in developing countries like India but only between 5-10% have access to occupational health services. [1] Occupational health services refer to the sum total of the programmes and activities performed for the purpose of attaining the highest level of health and safety of the workers and their families.[2] The knowledge of occupational health and safety by workers is crucial for effective and efficient practices of occupational health services in work environment. Occupational health service focuses on health promotion, diseases/hazard preventive services, curative services and rehabilitative services. [3] Occupational health services is a multidisciplinary activity aimed at the protection and promotion of the health of workers by preventing and controlling occupational factors and conditions hazardous to health and safety at work. [4]

In many developing countries of the world especially in Africa and Asia, occupational health and safety practices are not well established. [5] Biological hazards, also known as biohazards, are organic substances that pose a threat to the health of humans and other living organisms. Generally speaking, biological hazards include pathogenic microorganisms, viruses, toxins (from biological sources), spores, fungi and bio-active substances. Biological hazards can also be considered to include biological vectors or transmitters of disease. Outside the health arena, biological hazards include substances that cause social and economic disruption, property damage and environmental degradation, such as insect plagues or infestations. Worldwide, it is

estimated that around 320 000 workers die each year from communicable diseases caused by work-related exposures to biological hazards. [6-7]

Occupational health and safety is a cross disciplinary area concerned with protecting the safety, health and welfare of the people engaged in employment. [8] The goal of any research in this field is to foster a safe work environment. Fishing is probably the most dangerous occupation in the world. [9] The people engaged in sale of meat are less educated. The condition of work in meat industries is arduous. [10] Numerous factors are known that can directly influence the health of meat workers such as physical, chemical, psycho-social and mechanical factors. In India, there are no initial training sessions for meat workers about the health hazards. There is a need to make their life safer and comfortable. It can be done by enforcing necessary knowledge, positive attitude and safe practices at their work place.

The present study was designed to evaluate the knowledge, attitudes and practices about the prevention of occupational hazards and utilization of safety measures among meat workers in a city of Haryana state of India.

## MATERIAL AND METHODS

This was a cross-sectional descriptive study design. The study population comprised of meat workers who are actively involved in meat selling in the city of Faridabad, Haryana, India. The consent was taken from each of the participants. The convenient sampling technique was used in selection of study subjects. A total of 293 subjects were

included in the study. The consent was taken from each of the subjects before enrolling in the study.

Pretesting and reliability of the tool was ascertained before the final study. The interview was based on face to face interview with the help of structured questionnaire which comprised of 20 questions on knowledge, attitude scale having 15 questions and self reported practice scale with 25 items. The questionnaire was based on 5-point Likert scale with minimum score 0 to maximum 5.

### Statistical analysis

The data was analyzed with the help of computer assisted package of SPSS-16 version (Chicago, Inc., USA) after transferring the data in Microsoft excel. The descriptive statistics such as frequency, %, mean, standard deviation (SD) and coefficient of variation were calculated. The relationship between the variables was further elicited with the help of Karl Pearson Correlation coefficient. The  $p$ -value  $< 0.05$  was considered as significant.

### RESULTS

The knowledge about occupational hazards scores was higher for physical hazards (mean score=4.46, CV=25.3%) than chemical (mean=3.90, CV=25.9%), muscular (mean=3.72, CV=29.6%), psychosocial (mean=3.14, CV=32.8%) and safety (mean=1.19, CV=8.4%) (Table-1).

The meat workers had good score for practices about occupational hazards before starting the work (mean=3.35, CV=33.1%) than during work (mean=3.17, CV=36%) and after the work (mean=2.95, CV=32.2%) (Table-2).

The mean scores about attitude towards the occupational hazards was better observed among the respondents (Table-3).

There was significant relationship between knowledge and practice score ( $r=0.69$ ,  $p=0.0001$ ) as well as practice and attitude scores ( $r=0.88$ ,  $p=0.0001$ ). The  $r$  values indicates positive correlation hence, it can be described that, increase in knowledge tends to increase practices among meat workers. Further, increase in practice tends to increase attitude among meat workers. There was significant positive correlation between knowledge and attitude scores (Table-4).

### DISCUSSION

Johnson[11] defined hazard as 'the presence of a material or condition that has the potential for causing loss or harm'. This implies that there is an inherent existence of threat in that system. Risk on the other hand is defined as "a combination of the severity of consequences and likelihood of occurrence of undesired outcomes". In other words, risk is the likelihood that harm or injury from a hazard will occur to specific individuals or groups exposed to a hazard. Thus, for every system or process, there are associated risks and hazards no matter how well managed the system is. [12] Thus, different job types vary with different hazards and risks.

The burden of disease and injury attributable to workplace risks in the formal and informal sectors is grave and will continue to rise. Inadequate data and reporting systems make capturing the effect of workplace risks problematic. Nonetheless, several recent efforts by international bodies have shed some light on the staggering burden, although in general attempts to derive evidence-based estimates are likely to systematically and significantly under represent the extent of the problem. [13]

The gravity of workplace risks is seen in the International Labour Organization (ILO) estimate that among the world's 2.7 billion workers, at least 2 million deaths per year are attributable to occupational diseases and injuries. The ILO estimates for fatalities are the tip of the iceberg because data for estimating nonfatal illness and injury are not available for most of the globe. The ILO also notes that about 4 percent of the GDP is lost because of work-related diseases and injuries. [14]

In the present study, the knowledge about occupational hazards scores was higher for muscular than physical, chemical, psychosocial and safety. The meat workers had better score for practice about occupational hazards before starting the work than during work and after the work. The mean scores attitude towards the occupational hazards was better observed among the respondents. There was significant relationship between knowledge and practice score ( $r=0.67$ ,  $p=0.0001$ ) as well as practice and attitude scores ( $r=0.078$ ,  $p=0.0001$ ). The increase in practice tends to increase attitude among meat workers. There was significant positive correlation between knowledge and attitude scores. Swai et al [15] reported a low level of knowledge among animal health workers, livestock keepers and veterinary staffs in Tanzania.

Public policy to address improving occupational health in the developing world should rest on a sound scientific base (that is, be evidence based) and should be coupled with an understanding of the local and national frameworks for policy (whether through legislative, regulatory, or other means). Adequate research has not been undertaken to evaluate policy development and implementation in public health in general and occupational health specifically. As with the need for new health systems research, this area of inquiry would undoubtedly benefit from partnerships among countries in the industrial world and in the developing and industrializing world.

### CONCLUSION

The health personnel's responsibilities towards prevention and control of occupational hazards are inadequate; there is therefore, the need of occupational safety regulations and enforcement across all animal related occupations and need for occupational health taskforce to ensure compliance from the health personnel. Also, there is a substantial need for inter-disciplinary collaborative research and/or sharing of information between workers, health agencies and policy makers for healthy workforce.

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### Conflict of interest

None

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**Table 1: Distribution of knowledge scores according to different areas**

Area	Mean±SD	CV
Physical hazards	4.46±1.13	25.3
Chemical hazards	3.90±1.01	25.9
Muscular hazards	3.72±1.10	29.6
Psychosocial hazards	3.14±1.03	32.8
Safety hazards	1.19±0.10	8.4

CV-Coefficient of variation

**Table-2: Distribution of practice scores among study subjects**

Area	Mean±SD	CV
Before starting the work	3.35±1.11	33.1
During work	3.17±1.14	36.0
After the work	2.95±0.95	32.2

CV-Coefficient of variation

**Table-3: Distribution of attitude scores among study subjects**

Area	Mean±SD	CV
General	3.14±1.10	35.0
Wearing safety devices	4.66±1.13	24.2
Vessel safety	3.13±1.22	39.0

CV-Coefficient of variation

**Table-4: Correlation between different domains**

Domains	Correlation coefficient (r)	p-value
Knowledge and Practice	0.69	0.0001*
Practice and Attitude	0.88	0.0001*
Knowledge and Attitude	0.72	0.001*

\*Significant

## REFERENCES

- World Health Organization (WHO). Health and environment in sustainable development. Technical report series 1969; 816:45-53.
- Asuzu M. Occupational Health; A summary, introduction, and outline of principles; 2nd ed. Link Books. Ibadan (Nigeria). 2002:1-14, 34-7.
- World Health Organization (WHO). Second report of the joint ILO/WHO Committee on occupational health, Technical report series, 1953; Vol. 66..
- Asogwa SE. A guide to occupational health practice in developing countries. Enugu. 2nd ed. 2000; 10-12, 277-9.
- Ugbogu OC, Ohakwe J, Foltescu V. Occurrence of respiratory and skin problems among manual stone quarrying workers. *Africa Journal of Respiratory Medicine.*, 2006; 23: 26.
- Driscoll T, Takala J, Steenland K, Corvalen C & Fingerhut M. Review of estimates of the global burden of injury and illness due to occupational exposures. *American Journal of Industrial Medicine*, 2005; 48: 491-502.
- OSHA. Expert Forecast on Emerging Biological Risks related to Occupational Safety and Health. European Agency for Safety and Health at Work. Luxembourg: Office for Official Publications of the European Communities. 2007.
- Wikipedia, encyclopedia. Occupational safety & health (home page on the internet).US: Wikipedia foundation, Inc. c 2010-2013(updated 2013 Jan 29;cited 2013 jan31).Available from: [http://en.wikipedia.org/wiki/Occupational\\_safety\\_and\\_health](http://en.wikipedia.org/wiki/Occupational_safety_and_health)
- Manning P. FAO Fisheries & aqua culture-safety at sea (home page on the internet).Rome: fisheries & aqua culture dept ;( updated 2001 Sept 28; cited 2010 Jan 3). Available from : <http://www.fao.org/fishery/topic/12272/en>
- Novalbos J, Nogueroles P, Soriguer M, Piniella F. Occupational health in Andalusia fisheries sector. *Occupational medicine (Doi 10.1093/occumed /kqm156)*.2008 Feb 1: 58. Available from:<http://occmed.oxford-journals.org/content/58/2/141.full.pdf+htm>
- Johnson RW. Risk management by risk magnitudes – Unwin Company Integrated Risk Management., 2000; pp. 1 – 2.
- Erondu ES, Anyanwu. P.E Potential hazards and risks associated with the Aquaculture industry. *African Journal of Biotechnology*, 2005; Vol. 4 (13), pp. 1622-1627.
- PAHO (Pan American Health Organization).. "The Environment and Public Health." In *Health in the Americas.*, 2002; Vol. 2. Washington, DC: PAHO and WHO.
- Takala, J.. "Introductory Report: Decent Work—Safe Work." Paper presented at the 16th World Congress on Safety and Health, Vienna, May

27, 2002.

- Swai ES, Schoonman L, Daborn CJ. Knowledge and Attitude Towards Zoonoses among Animal Health Workers and Livestock Keepers in Arusha and Tanga, Tanzania. *Tanzania Journal of Health Research*, 2010; Vol 12, 4 282-288.