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Research Paper

Knowledge, attitude and practice of garment workers in Tirupur, India

■ D.S. Padmini, A. Venmathi, M.R. Duraisamy **and** A.K. Ganguli

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■ **ABSTRACT : Introduction:** The readymade garment (RMG) sector is labour-oriented and one of the largest employers in India and is a key driver of the national economy. But workers are exploited easily due to lack of technical knowledge and training, absence of health facilities and safety measures in work place. The triad of knowledge, attitude and practice (KAP) together make up the dynamic system of life itself. **Objectives:**To assess the levels of Knowledge, Attitude and Practice about Occupational Health and Safety (OHS) among garment workers. **Materials and Methods:**The present study was taken up in the Tirupur district which is situated in Tamil Nadu state, India. Five hundred and fourteen workers employed in garment industries were surveyed toassess their knowledge, attitude, and practice toward the occupational health and safety in garment industries. **Results:**The mean age of 514 garment workers was 30 (±8.7) years with mean work experience of 10 (±8.7) years. Above half of the workers (57%) were male and 43 per cent were female. Sixty per cent of the workers were married and 56 per cent of the workers had high school education. Of the workers, 41% were in permanent type of employment and 59% in temporary employment.Garment industry was categorized into three sections and workers were employed in cutting section (13%), stitching (48%) and finishing (39%).Majority of the work hours during regular days were between 11 and 12 hours (79%) while during peak days it exceeded 15 hours (93%).The mean and standard deviation of the total score of knowledge, attitude and practice were obtained to find the level of knowledge, attitude and practice among garment workers. The workers possessed medium level of knowledge (72%), attitude (93%) and practice (70%) about occupational health and safety.The variables namely knowledge, attitude and practice of workers employed in garment industries were found to be significant at one per cent indicating a good relationship among them. **Conclusion:**Safety training to increase knowledge and practicing habits need to be encouraged. Regular supervision to ensure and promote workplace safety and motivate the workers to use PPE regularly while at work is also recommended.

■ **KEY WORDS:** Garment workers, Knowledge, Attitude, Practice, OHS

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See end of the paper for authors' affiliations

D.S. Padmini
Department of Family Resource Management, Home Science College and Research Institute, Tamil Nadu Agricultural University, Madurai (T.N.) India

A healthy and motivated workforce is the key ingredient for productivity and economic prosperity. Workers seek greater reward for their productive efforts through improved working conditions and a safer working environment (Iqbal, 2010). Their health is largely determined by the standard of occupational health services available to them at their place of work.

The garment production process normally involves cotton production, spinning, knitting, dyeing and finally stitching. The present study focus at the supplies level that is on the last production unit where the actual garment is manufactured (Stigzelius *et al.,* 2006). The garment industry contributes 16.63 per cent to the foreign earnings of India and it employs over 3.5 million workers. There are five different garment production hubs such as Delhi, Mumbai, Tirupur, Bangalore and Chennai in India; all specialize in different types of garment production (Singh, 2009). Garment production in Tirupur, also known as "T-shirt city", accounts for approximately 80 per cent of India's total production of knitwear for export (Regional Report, 2010).

Lakhan and Sharma (2010) opined that the triad of Knowledge, Attitude and Practice (KAP) together make up the dynamic system of life itself. KAP survey among factory workers is a way to collect information on what is known or understood, their preconceived beliefs or feelings and how they demonstrate their knowledge and attitudes through their actions with the aim to plan, implement and evaluate interventional strategies (Launiala and Honkasalo, 2007). Kaliyaperumal (2004) reported that KAP study serves as an educational diagnosis of the community. KAP surveys today are widely used to investigate health behavior and health-seeking practices for effective health promotion.

Garment industry is one of the most important strategic industries which constitute about 7 per cent of total industrial production in the world and 8.3 per cent of the total trade in industrial materials. Also, it occupies more than 14 per cent of the total labour force in the world. It employs about 40 million people in various countries of the world (Mageid *et al.*, 2011). The present study was taken up in Tirupur which is the seventh largest city in Tamil Nadu, India and is one of the fastest developing cities in the state. Popularly referred as Dollar city or small Japan or T-Shirt city or Banian city it excels in knitted ready-made garment (Jacks *et al.*, 1994, Kausalya and Amuthalakshmi, 2007).

A number of studies have been carried out on KAP of workers in various fields. Earlier study by Yu *et al.* (2005) on knowledge, attitude, and practice regarding organic solvents among 501 printing workers in 28 factories in Hong Kong revealed a low level of knowledge (20.4%), appropriate attitude (38.4%), and safe practice (22%) among the workers. Safe practice did not depend on knowledge and attitude but was positively associated with being informed of safety precautions and being supplied with chemical information by supervisors. Haldiya *et al.* (2005) reported a huge gap between the knowledge and practice with protective devices among 205 salt workers. Parimalam *et al.* (2010) studiedamong 142 fabric dyers and printers from 23 small scale dyeing and printing units and reported that workers had knowledge regarding the occupational hazards, and their attitudinal approach toward the betterment of the work environment was positive but practice was still in the infancy.

KAP related to occupational health problems among 216 garment workers in Tamil Nadu, India, revealed that the workers employed in the three sections of 18 garment units had high levels of knowledge of health problems, but the knowledge of PPE differed by section. There was a wide gap between their knowledge level and practice with protective devices (Parimalam *et al.*, 2007). Another study by Ahmad *et al.* (2012) revealed that the effects of demographics were not significant on the levels of knowledge, attitude and practice regarding Occupational Health and Safety among 50 textile factory workers of Pakistan while the association in between these variables was positive significantly.

Objective :

The objective of this study was to assess the levels of Knowledge, Attitude and Practice about Occupational Health and Safety (OHS) among garment workers.

■ RESEARCH METHODS

The study was undertaken in the Tirupur district which is situated in the western part of the Tamil Nadu state in southern part of India. The objectives of the study were explained to the workers of garment industries. Five hundred and fourteen workers employed in 13 large, medium and small scale garment industries participated in the study. Pretested and self-structured questionnaire

and observational checklist were used to collect the required information. The questionnaire was first prepared in English and then translated to local language (Tamil). Questions on socioeconomic background, awareness of occupational health and details of the safety measures practiced were formulated and pretested among the workers who did not form a part of the study. Data were gathered from the respondents by a face-to-face confidential interview which took about 20-25 min. The data thus collected were analyzed using SPSS 16.0 with respect to knowledge, awareness level, and attitude and practices in preventing occupational hazards.

■ RESEARCH FINDINGS AND DISCUSSION

The age of the garment workers ranged from 15 to 56 years with a mean of 30 (±8.7) years. Above half of the workers (57%) were male and 43%were female. The insufficient income of the head of the family necessitated women and also sometimes children to work in garment industries. Sixty per cent of the workers were married followed by unmarried (38%), divorced (1%) and widow (1%). Fifty six per cent of the workers had high school education followed by primary school education (17.7%), higher secondary school education (12.3%) and can read and write (14%). Of the workers, 41.1 per cent were in permanent type of employment and 58.9 per cent in temporary employment. Their work experience ranged from one to 40 years with a mean of 10 (±8.7) years. The whole process in garment industry was categorized into three sections namely cutting, stitching and finishing. The cutting section included pattern making of fabric (both by manual or by using CAD) and its layout cutting while finishing section included checking of stitched fabric for damaged items, ironing and packing section of garments. Thirteen per cent of the workers were engaged in cutting section, stitching (48%) and finishing (39%). Majority of the work hours during regular days were between 11 and 12 hours (78.8%) while during peak days it exceeded 15 hours (92.8%).

The Table 1 shows the knowledge of the workers about the causative factors of occupational and other health problems due to working in garment industry.

Majority of the workers agreed that working in garment industry could lead to health problem(s) such as hearing disability (95.9%), eye problems (94.9%), respiratory problems (87.9%), dermatological problems (67.7%), gynaecological problems (54.7%) and urinary infections (41.8%). All the workers knew that working in garment industry for several years leads to musculoskeletal discomforts. As regards with the awareness of personal protective equipments, all the workers were aware of face mask and hand gloves and two third of them knew ear muffs/plugs and thimbles.

All the workers strongly felt that use of PPE, good work environment and safety measures to avoid electrical hazards facilitate a safe work environment. Forty seven per cent of the workers opined that use of ergonomically designed tool, equipment, furniture and workstation would reduce workers' MSDs because many of them did not know the benefits of ergonomical principles to be followed in the workplace. Only 15 per cent of the workers felt the need of MSDS at workplace to enable the user to know the chemical composition, its safe method of handling and disposing, thereby to prevent health effects.

All the workers had the practice of keeping their surrounding work environment clean and stacking all kinds of garment products safely. In order to meet the ends, workers (85%) had to work for excessively long working hours. Twenty per cent of the workers took frequent short breaks to reduce the soreness and stiffness related to fixed and static work postures. When enquired about the use of PPE by workers, 19 per cent used face mask and other PPE such as flexible metallic gloves, ear muffs/plugs and thimbles in trace percentage. This might be one of the reasons for high levels of minor/ major accidents and injuries prevailing in the industry among the workers.

The mean and standard deviation of the total score of knowledge, attitude and practice were obtained to find the level of knowledge, attitude and practice among garment workers. The mean and standard deviation of knowledge was 23±2.6, attitude 7±0.6 and practice 11±2.0. Table 2 represents the level of knowledge, attitude and practice (KAP) of garment workers.

The Table 2 implies that workers possessed medium level for all the particulars namely knowledge (72.2%), attitude (92.6%) and practice (69.8%). This necessitated the workers to undergo education or training programme to acquire knowledge, positive approach and ultimately implementing good practice in the workplace.

Pearson Correlation Co-efficient was computed to know the quantitative relationship between knowledge, attitude and practice of the garment workers. Table 3

Table 1 : Knowledge, attitude and practice of garment workers	**(n=514)**	
Particulars	Frequency	Percentage
Knowledge		
Working in garment industry leads to health problem(s)		
Respiratory problems	452	87.9
Dermatological problems	348	67.7
Hearing problems	493	95.9
Eye problems	488	94.9
Gynaecological problems	281	54.7
Urinary infections	215	41.8
Musculoskeletal discomforts	514	100.0
Are you aware of Personal Protective Equipment (PPE)		
Eye protective equipment	35	6.8
Face mask	514	100.0
Hand gloves	514	100.0
Ear muffs/Ear plugs	400	77.8
Thimbles	382	74.3
Attitude		
Use of personal protective equipment by workers while working reduce occupational related health problems	514	100.0
Use of ergonomically designed tools, equipment, furniture and workstation reduce workers' Musculoskeletal Discomforts (MSDs)	240	46.7
Good work environment in terms of lighting, noise, temperature, humidity, ventilation and space improve workers' safety, comfort and also reduce worker fatigue	514	100.0
Maintenance of Material Safety Data Sheet (MSDS) is necessary at workplace	79	15.4
Electrical hazards such as shocks and fire explosion can be avoided by maintaining and installing properly designed electrical wiring	514	100.0
Practice		
Do you use personal protective equipment		
Face mask	96	18.7
Flexible metallic gloves	26	5.1
Ear muffs/Ear plugs	17	3.3
Thimbles	8	1.6
Are you given periodic training for safe operation of new tools and equipment?	401	78.0
Are you taking frequent short breaks to reduce the soreness and stiffness related to fixed and static work postures?	105	20.4
Are you following job rotation or rotate tasks in order to avoid boring and repeating work?	11	2.1
Are you stacking all materials, supplies, stock, etc. safely?	514	100.0
Are you working for excessively long working hours?	437	85.0

Table 2 : Level of KAP of garment workers		**(n=514)**
Particulars	Frequency	Percentage
Knowledge		
Low level knowledge (score upto 21)	71	13.8
Medium level knowledge (score from 21 to 26)	371	72.2
High level knowledge (score above 26)	72	14.0
Attitude		
Medium level knowledge (score from 7 to 8)	476	92.6
High level knowledge (score above 8)	38	7.4
Practice		
Low level knowledge (score upto 10)	59	11.5
Medium level knowledge (score from 10 to 14)	359	69.8
High level knowledge (score above 14)	96	18.7

Table 3 : Correlation co-efficient of KAP of garment workers

	Knowledge	Attitude	Practice
Knowledge	1		
Attitude	0.25**	1	
Practice	0.35**	0.32**	1

** Correlation is significant at the 0.01 level (2-tailed).

shows the correlation co-efficient of KAP of garment workers.

When variables are significantly correlated, then there exist good relationships. The variables namely knowledge, attitude and practice of workers employed in garment industries were found to be correlated at one per cent level of significance indicating a good relationship among them. Hence there is good relationship between knowledge regarding the hazards and the attitude of the workers and the practices followed by them.

Positive correlation was found to be statistically significant between knowledge, attitude and practice in a research by Norkaew *et al.* (2010) from Thailand. The study found that the majority chilli-growing farmers had low knowledge, negative attitude and fair practices. In another research thesis from Vietnam by Truong *et al.* (2008), positive correlation was found to be statistically significant between knowledge and attitude, attitude and practice and knowledge and practice of 403 rattan craftsmen workers.The study revealed that a good knowledge and appropriate attitude were found in low level as same as the practice of using respirator.

Conclusion :

The study revealed that the garment workers employed in Tirupur garment industries possessed medium level of knowledge, attitude and practice about Occupational Health and Safety. Safety training to increase knowledge and practicing habits are needs to be encouraged. Regular supervision to ensure and promote workplace safety and motivate the workers to use PPE regularly while at work is also recommended.

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Authors' affiliations:

A. Venmathi, Faculty of Community Education and Entrepreneurship Development, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore (T.N.) India

M.R. Duraisamy, Physical Science and Information Technology, Agricultural Engineering College and Research Institute, Tamil Nadu Agricultural University, Coimbatore (T.N.) India

A.K. Ganguli, Indian Society of Ergonomics (ISE), Kolkata (W.B.) India

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