ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE RELATED TO OCCUPATIONAL HEALTH AND SAFETY AMONG TEXTILE MILLS WORKERS IN DERA ISMAIL KHAN

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ABSTRACT

Background: Recent industrialization has exposed industrial workers to increasing occupational hazards. The objective of this survey was to determine the knowledge, attitude and practice of workers about occupational health.

Material & Methods: It was a Knowledge, Attitude and Practice survey, carried out in Tribal Textile Mills, Dera Ismail Khan, from October 24, 2012 to November 5, 2012. Fifty respondents were selected from 650 workers by convenience sampling. Research tool was a questionnaire based on a 5-point Likert Scale. Demographic variables were age in years, age group, residence and language. Research variables were knowledge, attitude and practice. The data were analyzed for frequency, percentage, mean and standard deviation. Groupwise differences of knowledge, attitude and practice were determined by t-test and One-way ANOVA test and association among them by Pearson Correlation test. P value of <0.05 was considered statistically significant.

Results: Total respondents were 50 with no female worker. Young age group was dominating with a frequency of 44 (88%). The frequency of rural population was 26 (52%). Seraiki language was dominating with a frequency of 23 (46%). The difference of mean levels of knowledge, attitude and practice between the two age groups, two residence groups and three language groups were all statistically non significant. The correlations in between the knowledge, attitude and practice were all positively statistically significant.

Conclusion: The effects of demographics are not significant on the level of knowledge, attitude and practice regarding occupational health and Safety among textile factory workers.

Key Words: Occupational health, Occupational safety, Textile industry, Knowledge, Attitude.

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INTRODUCTION

Workers represent 50% of the world's population and contribute significantly to socio-economic development. Their health is largely determined by the standard of occupational health services available to them at their place of work.[1]

Occupational health means provision of comprehensive health care (personal & impersonal) to workers through a mix of promotive, preventive, curative & rehabilitative interventions so as to raise their quality of life.[2] It is also defined as effect of working environment and work on the health of the workers and in turn the effect of workers health status on the productivity.[3]

In Pakistan millions of factory workers are routinely exposed to different hazards in their working environment whereas most of them are not prepared to cope with these. Healthy workers are considered as most productive community.[4] Workers in textile industries are involved in repetitive tasks throughout the day in various sections of the factory.[5] They face physical, chemical, biological, mechanical & psychosocial hazards and diseases like accidents, stresses, cardiovascular problems, pulmonary problems and cancers.[6,7]

Recent globalization and industrialization has exposed occupational workers to increasing occupational hazards. The health status of global workforce and their exposure to occupational risks represents large gaps between and within countries.[8] Only a small minority (5-10%) of the global

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workers has access to occupational health services.[9] There is a need to confront the common challenges to occupational health & safety (OHS) including illiteracy, lack of the basic infrastructure, deficient qualified human resource in occupational health and safety, poor sanitation, inadequate nutrition, lack of research and decreased interdisciplinary cooperation between the social sciences and medicine.[10-12]

Center for Disease Control, World Health Organization,[13] and Environmental Protection Agency, USA[14] recommend a number of effective strategies, through respective governments including increasing public awareness about hazards/ diseases at the workplaces, monitoring of high risk groups, need for nutritional support programs, environmental legislation, ethical issues, safety regulations, insurance policies and spendings in occupational health & safety.[15] As the health and safety of the workers has been recognized as a fundamental human right hence all possible measures including medical, engineering as well as legislative & occupational surveillance need to be strengthened, especially in developing countries. [16] As cotton is a major crop in Pakistan, the textile industry is the leading industrial sector of Pakistan in terms of investment, employment, production & exports. The labour force in Pakistan was estimated at 39.4 million of which the industrial labour force constituted 6,005,487, agriculture represented 17,518,204 and services 10,586,309.[17]

The triad of Knowledge, Attitude and Practice (KAP) together make up the dynamic system of life itself.[18] 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.[19] KAP study serves as an educational diagnosis of the community.[20] By identifying needs, barriers in program delivery, ways for improving quality and accessibility of services the decision makers may develop customized and more efficient interventional strategies for the occupational workers.[21] KAP surveys today are widely used to investigate health behavior and health-seeking practices for effective health promotion.[22,23]

Objectives of this study were to assess the levels of Knowledge, Attitude and Practice about occupational health & safety (OHS) among textile factory workers and to determine the demographic factors that may influence the KAP of the workers.

MATERIAL AND METHODS

It was a KAP model cross-sectional survey, carried out in Tribal Textile Mills, Tank Road, Dera Ismail Khan, Pakistan from October 24, 2012 to November 14, 2012. The consent of the Mills administration was sought for this survey beforehand. Then the verbal consent of each respondent was also sought. From a population of 650 workers a sample size of 50 respondents was selected by convenience sampling technique.

All the occupational workers of the textile mills were eligible for inclusion. The refusal to inclusion by the respondent was the only exclusion criteria. A group of 4th year MBBS students collected the data as a mandatory task for completion of their Community Medicine field research project. They were trained on the questionnaire. Five of them interviewed ten of the respondents each in their native language on a written Performa. Demographic variables were age in years, age group, residence and language whereas research variables were level of Knowledge (K), level of Attitude (A) and level of Practice (P) regarding occupational health and safety (OHS). Age group had two attributes of young (up to 40 years) and middle age (more than 40 years). Residence had two attributes of urban and rural. Language had three attributes of Pashtu, Seraiki and Urdu. Residence and language were nominal, age group ordinal while age in years and levels of KAP were numeric data. The levels of KAP were determined by a questionnaire based on a 5-point Likert Scale. There were 21 questions for each of the three KAP variables with a range of 1-5 scores (strongly disagree, disagree, neutral, agree & strongly agree, respectively) for each question. A data matrix was framed in Data Editor of SPSS 17 (SPSS.Inc., Chicago, Illinois, USA) with Windows 7 Professional (Microsoft Corporation©, (USA) giving a sum and mean and thus the level of KAP for each respondent. Then all the seven variables were entered into another Data Editor of SPSS for further analysis.

The data were analyzed by determining the frequency and relative frequency for nominal and ordinal data and mean, standard deviation (SD) and range for numeric data. Whether the numeric data follows the Normal (Gaussian) distribution was determined by kurtosis, skewness and One-Sample Kolmogorov-Smirnov (K-S) Test. Three tests of significance were applied. Independent-Samples t-Test for group wise differences of levels of KAP for two age groups and two residence groups, One-way ANOVA Test for group wise differences of levels of KAP for three language groups and Pearson Correlation Test to see the type and significance of association between the various pairs of KAP variables. P value of <0.05 was considered as statistically significant.

RESULTS

All the respondents gave their response for all the questions, so no dropouts or missing data.

Table 1: Descriptive Statistics for age and levels KAP variables.

Variables	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
Age in years	19	55	31.98	7.73	0.597	0.116
Knowledge	2.00	4.29	3.51	0.51	-1.042	0.853
Attitude	2.05	4.00	3.28	0.53	-0.665	-0.345
Practice	1.95	3.76	3.19	0.37	-1.146	0.197

Table 2: One-Sample Kolmogoro-Smirnov Test for KAP variables

	Know-ledge	Attitude	Prac-tice
Kolmogoro-Smirnov Z	1.122	0.758	0.700
p-value (2-tailed)	0.161	0.614	0.712

Table 1 shows descriptive statistics for age and levels of KAP.

Table 2 shows One-Sample Kolmogorov-Smirnov Test.

As shown by skewness, kurtosis and One-Sample K-S Test, the data for levels of KAP are following Normal distribution; hence parametric tests of significance are applied.

Table 3: Analysis of KAP variables as grouped by age groups (Independent-Sample t-test).

KAP variables	age group	Num-ber	Mean	SD	t- value	DF	P value (2-tailed)
Knowledge	age up to 40 years	44	3.55	0.47	1.70	48	0.09
	age above 40 years	6	3.18	0.66			
Attitude	age up to 40 years	44	3.32	0.49	1.37	48	0.17
	age above 40 years	6	3.00	0.71			
Practice	age up to 40 years	44	3.22	0.35	1.97	48	0.05
	age above 40 years	6	2.92	0.39			

SD=Standard deviation, DF=Degree of freedom

Total respondents were 50. As there was no female occupational worker, so there was no variable of gender. The frequency of young age group was 44 (88%), dominating that of middle age group with a frequency of 6 (12%). The frequency of urban population was 24 (48%) and that of rural population was 26 (52%). The frequency of Pashtu language population was 13 (26%), Seraiki 23 (46%) and of Urdu 14 (28%).

Table 3 shows that the difference of mean levels of all the three KAP variables between the two age groups is statistically non significant.

Table 4 shows that the difference of mean levels of all the three KAP variables between the two residence groups is statistically non significant.

Table 5 shows that the difference of mean levels of all the three KAP variables between the three language groups is statistically non significant.

Table 4: Analysis of KAP variables as grouped by residence (Independent-Samples t-Test)

KAP variables	Residence group	Number	Mean	SD	t- value	DF	P value (2- tailed)
Knowledge	Urban	24	3.59	0.39	1.19	48	0.23
	Rural	26	3.42	0.58			
Attitude	Urban	24	3.30	0.49	0.26	48	0.79
	Rural	26	3.26	0.56			
Practice	Urban	24	3.21	0.36	0.49	48	0.62
	Rural	26	3.16	0.38			

SD=Standard deviation, DF=Degree of freedom

Table 5: Analysis of KAP variables as grouped by 3 language groups (One-way ANOVA)

KAP variables	Language group	N	Sum of Squares	Mean Square	F-value	DF	P value (2- tailed)
Level of Knowledge	Pashto	13	0.05	0.02	0.10	2	0.90
	Seraiki	26					
	Urdu	14					
Level of Attitude	Pashto	13	0.03	0.01	0.05	2	0.95
	Seraiki	26					
	Urdu	14					
Level of Practice	Pashto	13	0.18	0.09	0.65	2	0.52
	Seraiki	26					
	Urdu	14					

N=Number, Mean level, SD=Standard deviation, DF=Degree of freedom

Table 6: Pearson Correlation: Knowledge to Attitude and Practice and Attitude to Practice.

Level of Knowledge to level of Attitude		Level of Knowledge to level of Practice		Level of Attitude to level of Practice	
Coefficient	P value	Coefficient	P value	Coefficient	P value
0.71	0.00	0.54	0.00	0.67	0.00

Table 6 shows that the correlations of level of knowledge to level of attitude, level of knowledge to level of practice and level of attitude to level of practice are all highly statistically significant.

DISCUSSION

Age directly or indirectly influences human behavior towards occupational health and safety. Mean age of our study population was 31.98± 7.73 with a range of 19 to 55 years while in a study by Ahmed et al from United Arab Emirates the mean age of workers was 46.9 ±11.2 years with a range of 19 to 66 years.[8] In our study the dominating age group was young age (up to 40 years) while in another study from Faisalabad, Pakistan by Malik et al; the dominating (42.1%) age group was middle age (>35-50) and overwhelming majority (91.9%) of the respondents was male. [4] Almost similar was the situation in our case where 100% workers were males. The explanation may be that in all over South Asian region the women have poor access to employment in textile industry probably due to strenuous physical nature of the job & some cultural restrictions. Majority (71.5%) of the respondents belonged to rural areas[4] whereas in our study, the said proportion was almost equal.

Correlations of level of knowledge to level of attitude, level of knowledge to level of practice and level of attitude to level of practice were all highly statistically significant in our study whereas according to another research dissertation by Truong CD from Vietnam, positive correlation was found to be statistically significant between Knowledge and Attitude, and Attitude and Practice.[24] In another research thesis by Norkaew MS from Thailand, positive correlation was found to be statistically significant between Knowledge and Attitude, Attitude and Practice and knowledge and Practice.[25]

CONCLUSION

The effects of demographics were not significant on the levels of knowledge, attitude and practice regarding Occupational Health and Safety among textile factory workers while the association in between these variables was positive significantly.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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None declared.