KNOWLEDGE ON OCCUPATIONAL HAZARDS AND UTILIZATION OF SAFETY MEASURES AMONG TRAFFIC POLICE OF SOUTH KANARA DISTRICT, INDIA.

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Abstract: A descriptive survey was conducted to determine the knowledge of Police force on prevention of occupational hazards and utilisation of safety measures. The study was carried out in Traffic Police Stations of South Kanara District, Karnataka state, Mangalore. The sample comprised of 90 traffic police of the selected stations. The subjects were selected by convenience sampling technique. The content validity of the structured questionnaire was done by 9 experts, the pretesting of the tool was done on 6th July 2009 on five traffic police. The reliability of the knowledge questionnaire was tested for internal consistency by using split half technique and Chronbach’s Alpha was used to test the rating scale regarding utilization of safety measures. The reliability was found to be 0.75 and 0.8 respectively, which indicated that the tool was reliable. The data collection was done from 09/08/09 to 16/08/09. Formal written permission was obtained from the authorities to conduct the study and written consent was obtained from the subjects prior to the data collection process. A structured knowledge questionnaire and rating scale to assess utilization of safety measures were used for data collection. The data was analyzed using descriptive and inferential statistics. Majority of the subjects (89%) had inadequate knowledge on prevention of occupational hazards. 7% of the subjects showed low utilization of safety measures. There was no significant relationship between knowledge score on occupational hazards and score on utilization of safety measures \( r = 0.100, P=0.208 \). There was a significant association of the scores on utilization of safety measures with age and income. However found no association between knowledge scores and demographic variables.

Keywords: knowledge, Safety measures, Occupational hazards.

I. Introduction

The work environment constitutes an important part of man's total environment, so health to a large extent is affected by work conditions. No work is completely risk free and all health care professionals should have some basic knowledge about workforce populations, work and related hazards, methods to control hazards and thus they can contribute towards securing workers’ health. Besides the Government’s role in providing occupational health and safety, occupational health nurses also have an important role to play in the identification of hazards, evaluation of risks and priorities the required actions. This study focuses on knowledge of the police force on work related hazards and utilisation of safety measures. The policemen are prone to illnesses due to work pressure and an irregular lifestyle. The worst hit is the traffic police who belongs to the high-risk group and have a higher risk of physical, mechanical hazards such as noise and air pollution.

A descriptive survey approach was used for this study. The study was carried out in Traffic Police Stations of South Kanara District. The sample comprised of 90 traffic police of the selected stations. Subjects were selected by convenient sampling technique. Formal written permission was obtained from the Superintendent of Police Mangalore to conduct the study and written consent was obtained from the subjects prior to the data collection process. The reliability of the knowledge tool was established by using split half technique and the tool regarding utilisation of safety measures was tested by using Chronbach Alpha. The reliability found to be 0.75 and 0.8 respectively. Which indicated the tool was reliable. The data were collected by using a structured knowledge questionnaire and rating scale. The data were analyzed using descriptive and inferential statistics.

II. Methods

The study design adopted was descriptive survey design. The population comprised of 90 traffic police force working in the police stations of South Kanara judiciary limits was chosen. Pretesting and reliability of the tool was ascertained before the pilot study. A written consent was obtained from the Police Superintendent, Mangalore Police Station and also from the subjects after explaining the purpose of the study. A structured
knowledge questionnaire comprising about 30 items and rating scale comprising 30 items on utilization of safety measures was administered. The data were analyzed with the help of a SPSS-17 package. The descriptive statistics such as Frequency, %, mean, mean %, SD was used to describe the socio-demographic variables & overall, area wise scores related to knowledge and utilization of safety measures were analyzed. The relationship between the variables was elicited with the help of Karl Pearson Correlation coefficient and chi-square and Yates correction to find out the association between research variables and socio-demographic variables.

III. Results & Discussion:

The main finding were discussed under the following headings:

A. Overall and area wise knowledge scores on prevention of occupational hazards:

The majority of the subjects (78%) had average knowledge, 11% of the subjects had poor knowledge. The knowledge of the subjects ranged from 11-26 with mean percentage 50.93% ± 3.016.

The area wise analysis of knowledge scores had revealed the possession of least knowledge in the area of physical hazards with mean % 41.11 ± 1.559. The mean % of 48.72 and 60.69 in the area of chemical hazards and mechanical hazards also indicates the inadequate knowledge.

Table: I Overall and area wise distribution of knowledge scores on prevention of occupational hazards:

<table>
<thead>
<tr>
<th>Areas</th>
<th>Mean</th>
<th>Mean %</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Hazards</td>
<td>5.34</td>
<td>41.11</td>
<td>1.559</td>
</tr>
<tr>
<td>Chemical Hazards</td>
<td>6.33</td>
<td>48.72</td>
<td>1.236</td>
</tr>
<tr>
<td>Mechanical Hazards</td>
<td>4.86</td>
<td>60.69</td>
<td>1.496</td>
</tr>
<tr>
<td>Psycho-social Hazards</td>
<td>2.31</td>
<td>77.04</td>
<td>0.664</td>
</tr>
<tr>
<td>Overall</td>
<td>18.84</td>
<td>50.93</td>
<td>3.016</td>
</tr>
</tbody>
</table>

Figure 1: overall knowledge scores on occupational hazards:

Figure 2: Area wise knowledge scores on occupational hazards.

B. Utilization of safety measures among policemen

The majority (66%) of the subjects were using safety measures at a moderate level, 27% of the subjects showed high utilization of safety measures and 7% of the subjects showed low utilization of safety measures with a SD of 5.906.
C. Significant relationship between knowledge scores and scores on utilization of safety measures.
There was a very weak positive relationship between knowledge scores and scores on utilization of safety measures (df = 88; r = 0.10, P = 0.208).

D. Significant comparison between knowledge on occupational hazards & utilization of safety measures with the selected socio-demographic variables.
There was no significant association between knowledge scores and selected demographic variables such as age, gender, education, monthly income, and total work experience, common type of hazard and source of information.
There was a significant association between utilization of safety measures with age ($\chi^2 = 10.459$ and income = 4.063). [$\chi^2 = 3.84$ at df 1 and, $\chi^2 = 5.990$ at df 2, p < 0.05 level of significance].
A study conducted in Tianjin, China to investigate the on-the-job related health hazards among policemen working at the various traffic sites had indicated that the eye diseases were high in those who worked outdoors at the traffic sites, the incidence of heat strokes, dermatitis, chilblains, noise induced deafness in traffic policemen were higher than that of the police working in doors. A cross-sectional study conducted in Balarampur city, India among 48 constables had indicated that around 89.6% of them were chewing tobacco and 20.8% were consuming alcohol. Found 27.08% with muscular-skeletal disorders, 25% with hypertension and 18.7% with elevated blood eosinophils counts. The study conducted in Kuala Lumpur, Malaysia on 32 on-duty Traffic personnel had revealed that only 40% with adequate knowledge regarding occupational hazards, 80% had noise induced hearing loss and they were engaged in poor utilization of safety measures.

IV. Conclusion
It is a well known fact that illiteracy leads to ignorance, but in contrast to this statement, the present study reveals that in spite of the police personnel having the minimal educational qualification required for policing i.e. up to PUC yet they do not have adequate knowledge on occupational hazards and do not use adequate safety measures. Occupational health is one of the neglected branches of community health and still enough focus is not given concerning the health of workers. The study highlights the importance to do further studies related to occupational hazards. The workplace has significant influence on health, hence; the workplace will become dominant areas where health and illness care will be sought for.

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Conflicts of interest
The authors declare that they have no competing interest.
References