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RESEARCH ARTICLE

A Study to assess the Effectiveness of an Information Booklet in Terms of Knowledge and Practice regarding Preventive Aspects of selected Occupational Hazards among Workers working in selected Chemical Factories of Vadodara District of Gujarat State

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ABSTRACT:

BACKGROUND OF THE STUDY: Occupational worker is a precious gift which has a lot of potentials with one which can be the best resource for the nation if developed and utilize well. Healthy worker make healthy occupational environment. There is a close relationship between unhealthy worker to a worsened future of the industry. **AIMS AND OBJECTIVES**: The aim of the study to assess the effectiveness of informational booklet on knowledge and practice regarding preventive aspects of selected occupational hazards among the workers working in selected chemical factories of Vadodara district. **MATERIAL AND METHODS:** Pre experimental one group pre test post-test research design, and a non probability convenient sampling technique was adopted to achieve the goal of the study. The tool consists of three parts. First part consists of demographic data of the sample and the second part consists of structured knowledge questionnaires and third part include practice checklist regarding preventive aspects of selected occupational hazards. The sample was 150workers working in selected chemical factories of Vadodara district. **RESULTS:** The collected data was tabulated and analyzed by using descriptive and inferential statistics. In the pretest knowledge mean score was 9.54 and post test mean score 23.40. The post test level of knowledge mean score is significantly greater than the pre test knowledge mean score. The 't' value 113.73 is more than tabulated value at 0.05 level of significance. In the pretest practice mean score was 3.97 and post test mean score 11.94. The post test level of practice mean score is significantly greater than the pre test practice mean score. The 't' value 63.40 is more than tabulated value at 0.05 level of significance. **CONCLUSION:** According to the calculation of both pre test and post test score study reveals that there was improvement in knowledge and practice level of workers regarding preventive aspects of selected occupational hazard after administrating the informational booklet on knowledge and practice of preventive aspects of selected occupational hazards. Hence it indicates that the informational booklet was effective.

KEYWORDS: Knowledge, Practice, Effectiveness, Informational Booklet, Workers.

INTRODUCTION:

India's population has crossed 1.21 billion according to recently released figures of the last government census carried out in 2011. Of these, 833 million reside in rural area and 377 million reside in urban area. Those in working age group are estimated to be 63.6%. More than

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90% work in the informal economy, mainly agriculture and services (60% self-employed and 30% without regular jobs).[1]

The chemical sector has achieved growth of 13-14% in the last 5 years while petrochemicals have registered a growth of 8-9% over the same period of time. The chemicals industry in India is the largest consumer of its own products, consuming 33% of its output. With promising growth trends in the chemicals industry, this internal consumption is also set to rise. Chemicals constitute 5.4% of India's total exports. The Indian Chemical Industry comprises both small and large-scale units, and presently, there are about 70,000 chemical manufacturing units present in the country.[2]

Occupational safety and health (OSH) for India is a developmental tool and an empowering movement. As a result of globalization, Indian industry is exposed to the latest trends in OSH. Progressive industries have launched many initiatives to spread awareness on OSH among all stakeholders and to reduce OSH risks at workplace. A large number of companies have a corporate health, safety and environment (HSE) policy and have opted for various certifications in OSH.[3]

OBJECTIVES OF STUDY:

1. To assess the pre-test level of knowledge and practice of workers regarding preventive aspects of selected occupational hazards.
2. To evaluate the effectiveness of information booklet on knowledge and practice regarding preventive aspects of selected occupational hazards.
3. To find out association of pre-test knowledge and practice with selected demographic variables of workers.

HYPOTHESES:

H_1: There will be significant increase in post test knowledge scores as compared to pre test knowledge scores regarding preventive aspects of selected occupational hazards among workers working in the Bajaj health care, Cool and Care, and Namosha chemicals factories, of Vadodara district, Gujarat state.

H_2: There will be significant increase in post test practice scores as compared to pre test practice scores regarding preventive aspects of selected occupational hazards among workers working in the Bajaj health care, Cool & Care, and Namosha chemicals factories, of Vadodara district, Gujarat state.

H_3: There will be significant association in pre test knowledge scores workers with selected demographic variables.

H_4: There will be significant association in pre test practice scores workers with selected demographic variables.

METHODOLOGY:

Research approach:

Quantitative evaluative approach.

Research design:

One group pre test -post test pre-experimental research design.

Variables under the study:

Independent variables:

In the study, independent variable refers to theInformational booklet regarding preventive aspects of selected occupational hazards.

Dependent variables:

In this study, Dependent variable refers to the knowledge and practice among workers working in selected chemical factories of Vadodara.

Research setting:

Bajaj health care, Namosha chemical, Cool & Care factories of Vadodara district.

Population:

The population of present study comprises all the workers of selected chemical factories of Vadodara.

Sample and sampling technique:

The sample of the study comprised of 150workers of selected chemical factories of Vadodara district. In this study, Non-probability Purposive sampling technique was used.

Data collection techniques and tools:

Data collection instrument were structured knowledge questionnaire and observational practice checklist.

Data colletion tool:

A set of questionnaire for assessment of knowledge and checklist questionnaire was prepared for assessing the practice of sample. The tool consists of 3 sections.

Section: A

Socio-demographic data that consist of variables such as Age, Gender, Qualification, working experience, training attended related OSH, Come across with occupational hazards before.

Section: B

Self-administered knowledge questionnaire is used to assess the knowledge of workers regarding preventive aspects of selected occupational hazards.

Section: C

Practice of workers regarding preventive aspects of selected occupational hazards is assessed using non-standardized 2 pointlikart scale checklist.

RESULTS:

Findings are organised in the following section:

Section I: Description of demographic variables of workers:

Distribution of the respondents according to age shows that among 150 participants majority of samples (46%) were aged between 18-25 years, 24% of samples belongs to the age group of 26-33 years, 12% of workers aged between 34-41 years, 10.67% samples belongs to the age group of 42-49 years, 4.66% samples belongs to the age group of >57 years and only 2.67% of workers are aged between 50-57 years. Distribution of the respondents according to gender shows that among 150 participants majority of the participants (70.67%) were males and only 29.33% of samples were females. Distribution of the respondents according to educational status shows that among 150 participants majority of workers (45.33%) had primary education, 21.33% of them had secondary education, 14.67% of samples got higher secondary education, 10% of workers got diploma and only 8.67% were graduated. Distribution of the respondents according to total working experience shows that among 150 participants 54.66% of the workers had experience between 0-5 years, 28.67% of them had experience between 5-10 years, 6.67% had experience between 10-15 years, and only 10% of workers experienced more than 15 years. Distribution of the respondents according to monthly shows that among 150 participants monthly income of majority of the samples (37.33%) was in between 10001-15000, 35.55% of samples income was in between 5001 – 10000, 20.67% of samples income was < 5000 & only 6.67% of sample was > 15000. Distribution of the respondents according to monthly income shows that among 150 participants majority (78%) were temporary workers and only 22% were permanent employee. Distribution of the respondents according to attendance of training programme shows that among 150 participants only 15.33% have attended training program related to prevention of occupational hazards and majority (84.67%) of the workers have not attended the training regarding preventive aspects of occupational hazards. Distribution of the respondents according to type of exposure shows that among 150 participants 77.33% were having direct exposure to chemical substances and 22.67% were having indirect exposure to chemical substances. Distribution of the respondents according to frequency of health check-up shows that among 150 participants majority (58.67%) of the samples were checking up their health status whenever they needed, 16.66% of workers were checked up their health once in a year, 12.67% of samples were checking their health once in a month and only 12% of samples checked up their health quarterly. Distribution of the respondents according to frequency sufferance from previous illness shows that among 150 participants 85.33% were suffered from occupational illness or disease and only 14.67% were never suffered from occupational illness or disease. Distribution of the respondents according to severity illness shows that among 150 participants majority (46%) of the samples suffered from persistent illness, 26% of workers suffered from acute illness, 16% of samples suffered from chronic illness & only 12% of samples never suffered from any occupational illness.

Section II: Assessment of knowledge and practice regarding preventive measures of selected occupational hazards among the workers working in selected chemicals factories.

The overall distribution of Pretest knowledge regarding preventive measures of selected occupational hazards shows that among 150 participants 41(27.33%) had inadequate knowledge, 109(72.67%) had moderate knowledge regarding preventive measures of selected occupational hazards in the pre-test.

Distribution of level of knowledge among workers regarding preventive aspects of selected occupational hazards. (Pre-test) N=150

Grade	Score	Frequency	Percentage (%)
Inadequate	0-10	41	27.33
Moderate	11-20	109	72.67
Adequate	21-30	00	00

The overall distribution of Pretest practice regarding preventive measures of selected occupational hazards shows that among 150 participants 32(21.33%) had inadequate practice, 118(78.67%) had moderate practice regarding preventive measures of selected occupational hazards in the pre-test.

Distribution of level of practice among workers regarding preventive aspects of selected occupational hazards. (Pre-test) N=150

Grade	Score	Frequency	Percentage (%)
Inadequate	0-5	32	21.33
Moderate	6-10	118	78.67
Adequate	11-15	00	00

The overall distribution of Post test knowledge regarding preventive measures of selected occupational hazards shows that among 150 participants 0 (0%)had inadequate knowledge, 4 (2.67%)had moderate knowledge, and 146 (97.33%) had adequate knowledge.

Distribution of level of knowledge among workers regarding preventive aspects of selected occupational hazards. (Post-test) N=150

Grade	Score	Frequency	Percentage (%)
Inadequate	0-10	0	0%
Moderate	11-20	4	2.67%
Adequate	21-30	146	97.33%

The overall distribution of Post test practice regarding preventive measures of selected occupational hazards shows that among 150 participants 0(0%) had inadequate practice, 20(13.33%) had moderate practice and 130 (86.67%) had adequate practice regarding preventive measures of selected occupational hazards in the post-test.

Distribution of level of practice among workers regarding preventive aspects of selected occupational hazards. (Post-test) N=150

Grade	Score	Frequency	Percentage (%)
Inadequate	0-5	00	00
Moderate	6-10	20	13.33
Adequate	11-15	130	86.67

SECTION – III: **Effectiveness of informational booklet on knowledge and practice regarding preventive aspects of selected occupational hazards.**

Mean, Standard Deviation, Mean Difference and't' value of pre testand post test knowledgescore. N=150

Variables		Mean	Mean Difference	Sd	t-Value	Inference
Knowledge	Pre test	9.54		1.793		
	Post test	23.40	13.86	1.634	113.73	S

t (149, 0.05) = 1.98

The mean of the post test (23.40) is higher than the mean score (9.54) of pre test, were as the mean difference is 13.86 between pre test and post test and standard deviation of the pre test is 1.793 and 1.634 is of post test, with that the't' value is 113.73 which indicates that the informational booklet on knowledge regarding preventive aspects of selected occupational hazards was effective.

Mean, Standard Deviation, Mean Difference and't' value of pre test and post test practice score. N=150

Variables		Mean	Mean difference	Sd	t-Value	Inference
Practice	Pre test	3.97		1.37		
	Post test	11.94	7.9667	**1.05**	63.40	S

t (149, 0.05) = 1.98

The mean of the post test (11.94) is higher than the mean score (3.97) of pre test, were as the mean difference is 7.97 between pre test and post test and standard deviation of the pre test is 1.37 and 1.05 is of post test, with that the't' value is 63.40 which indicates that the informational booklet on practice regarding preventive aspects of selected occupational hazards was effective.

SECTION IV: Association between selected demographic variables and pre test knowledge and practice score

Association between pre test knowledge scores of workers with demographic variables:

The obtain data shows that the X^2 value computed between pre test knowledge of workers regarding preventive aspects of selected occupational hazards and selected demographical variables. Variables of gender (χ^2= 5.073), educational status (χ^2= 9.953), type of exposure to chemicals (χ^2= 4.242), previous suffering from any occupational illness (χ^2= 6.669), were found to be significant at 0.05 level hence H_3 is accepted with respect to the above variables. Variables such as age (χ^2= 8.454), working experience (χ^2= 3.850), monthly income (χ^2= 2.744), type of employment (χ^2= 1.737), Attendance of any training related to prevention of occupational hazards (χ^2= 0.759), frequency of health checkup (χ^2= 2.935) & severity of illness (χ^2= 4.799) was not significant at 0.05 level. Thus it can be interpreted that there is a significant association between pre-test knowledge scores of workers with selected socio-demographic variables such as gender, educational status, type of exposure to chemicals & previous suffering from any occupational illness.

Association between pre test practice scores of workers with demographic variables:

The obtain data shows that the X^2 value computed between pre test practice of workers regarding preventive aspects of selected occupational hazards and selected demographical variables. Variables of educational status (χ^2=19.481), Attendance of any training related to prevention of occupational hazards (χ^2=31.17), were found to be significant at 0.05 level, age (χ^2=2.58), gender (χ^2=0.29),working experience (χ^2=1.58), monthly income (χ^2=0.21), type of employment (χ^2=0.21), , type of exposure to chemicals (χ^2=0.01), previous suffering from any occupational illness (χ^2=0.03), frequency of health checkup (χ^2=4.69) & severity of illness (χ^2=0.5) was not significant at 0.05 level. Thus it can be interpreted that there is a significant association between pre-test practice scores of workers with selected socio-demographic variables such as educational status and attendance of any training related to prevention of occupational hazards hence H_4 is accepted with respect to the above two variables.

RECOMMENDATIONS:

Based on the finding of the present study recommendations offered for the future study are:

1) The study can be done in knowledge and practice regarding preventive aspects of selected occupational hazards.
2) A comparative study between urban and rural chemical workers regarding knowledge, attitude and practice on preventive aspects of selected occupational hazards can be done.
3) Evidence based nursing practice must take higher profile order to increase awareness among workers.

CONCLUSION:

The present study assessed the knowledge and practice among workers regarding preventive aspects of selected occupational hazards and found that the workers had inadequate and moderated knowledge and practice level related to preventive aspects of selected occupational hazards. After the implementation of informational booklet there was significant improvement on knowledge and practice level of the workers.

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