Effectiveness of Occupational Health Education Program upon Workers' Knowledge Towards Occupational Health Dimensions

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الخلاصـــة:

الهدف: تحديد فاعليّة برنامج تثقيفي صحي مهني على معارف العمال تجاه أبعاد الصحة المهنية.

المنهجية: دراسة شبه تجريبية حيث اختيرت عينة غرضية (غير احتمالية) مكوّنة من (60) عامل وعاملة من الشركة العامة لصناعة البطاريات في الرصافة، والشركة العامة للغزل والنسيج القطني في الكرخ، حيث قسموا إلى مجموعتين متساويتين، كل مجموعة تظم (30) عامل في كل من مجموعة الدراسة والمجموعة الضابطة. تمّ تحليل البيانات باستخدام أسلوب تحليل البيانات الإحصائي الوصفي (التوزيع التكراري ،النسبة المئوية والوسط الحسابي) وأسلوب تحليل البيانات الإحصائي الاستنتاجي (الاختبار التائي ،معامل الارتباط بيرسون).

النتائج: أشارت نتائج التحليل الإحصائي للبيانات إلى أنّ مشاركي مجموعة الدراسة حصلوا على فوائد برنامج الصحة المهنية وحصل تغيير في معلوماتهم عن أبعاد الصحة المهنية. وأشارت النتائج إلى أن ثلث العينة تقريبا كانتْ أعمارهم (27-36) سنة، وأنّ معظمهم من المتزوجين، ولديهم (6-10) سَنَوات في العمل، وأنّ معظمهم كان توصيفهم الوظيفي عمال. تقريباً رُبْع العينة خريجو الدراسة الثانوية. نِصفُهم كَانَ من ذوي الدخل المتوسط وقد وُزّعوا فيما يتعلق بجنسيهم على حدٍّ سواء. أكثر مِنْ ثُلث منهم في كلتا المجموعتين كَانوا عُمّالَ كهرباء (23.3 %).

التوصيات: أوصت الدراسة على أن يقدَّم للعمال البرامج التثقيفية حول المخاطر المهنية لكي يزداد الوعي الصحي للعمال أثناء العمل منعا للإصابة.

Abstract:

Objective: To determine the effectiveness of occupational health education program upon the workers' knowledge towards occupational dimensions.

Methodology: A quazi-experimental study was carried out on a purposive "non-probability" sample of workers that was selected from the General Company for Batteries Industry at Al-Russafa, and General Company for Cotton Textile at Al-Karkh in Baghdad City. The researcher divided the workers into two equal groups of (30) worker for each one (the study and control group).

Results: Analysis of such distribution indicated that almost one third of them was accounted for those who were (27-36) years, married, having (6-10) years of employment, and their Job description was workers. Almost one quarter of them was primary and secondary school graduates. Half of them. had moderate income and they were equally distributed with respect to their gender. More than one third of them in both groups was accounted for workers who were electrical workers (23.3%).

Recommendations: The study recommended that the occupational health oriented education program can be designed, constructed and implemented for workers to increase their awareness toward the impact of work hazards and occupational health.

Key words: Occupational health ,workers' Education knowledge, occupational health Dimensions.

Introduction:

Occupational health is a cross-disciplinary area that is concerned with protecting the safety, health and welfare of people engaged in work or employment. As a secondary effect, Occupational Health may also protect co-workers, family members, employers, customers, suppliers, nearby communities, and other members of public who are affected by the workplace environment [(1)].

The International Labor Organization (ILO) estimates show that each year there is about (200,000) workers lose their lives and as many as (120) million are injured or become ill as a result of work. Some (100-150) new cases of occupational diseases are caused by various exposures at the workplace and dangerous working conditions of which about (30-40) percent may lead to chronic diseases and disability. A large number of occupational diseases are undiagnosed and unreported [(2)].

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Occupational Health program aims to create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases; to place the

health and safety of all workers on the international agenda; and to stimulate and support practical action at all levels. With this in mind, the program will launch ground-breaking research, statistical work and media-related activities, and will support national action through a global program of technical assistance [3].

Methodology:

Results:

Table 1. Distribution of the Workers' Demographic Characteristics

List	Demographic Characteristics	Study group		Control group	
		F	(%)	F	(%)
1	Age (year)				
	17-26	5	16.	5	16.7
	27-36	10	33.	8	26.7
	37-46	8	26.	8	26.7
	47-56	2	6.6	4	13.2
	57 and>	5	16.	5	16.7
2	Gender				
	Male	15	50.	15	50.0
	Female	15	50.	15	50.0
3	Marital status				
	Single	8	26.7	8	26.7
	Married	11	36.7	11	36.7
	Separated	4	13.3	4	13.3
	Widowed	6	20.0	5	16.7
	Divorced	1	3.3	2	6.6
4	Years of Employment				
	1-5	5	16.8	10	33.3
	6-10	10	33.3	5	16.8
	11-15	7	23.3	7	23.3
	16-20	4	13.3	4	13.3
	21and>	4	13.3	4	13.
5	Education				
	Read and write	3	10.0	4	13.3
	Primary School	7	23.3	7	23.3
	Intermediate School	7	23.3	6	20.0
	Secondary School	8	26.8	8	26.8
	Institute or College	4	13.3	4	13.3
	Higher education	1	3.3	1	3.3

Table 1. (continued)

6	Monthly income				
	Sufficient	7	23.	10	33.3
	Somehow Sufficient	17	56.	12	40.0
	In Sufficient	6	20.	8	26.7
7	Type of work				
	Machine operator	5	16.	5	17.7
	Administrator	5	16.	5	17.7
	Mechanical	5	16.	5	17.7
	Product worker	6	20,	5	17.7
	Service worker	2	6.6	2	5.7
	Electrical worker	7	23.	7	23.3
8	Job description				
	Worker	12	40.	12	40.0
	Chief workers	11	36.	10	33.3
	Observer	3	10.	3	10.0
	Chief observers	1	3.3	2	6.7
	Engineer	2	6.7	2	6.7
	Chief engineers	1	3.3	1	3.3

F=frequency; %=percentage

Analysis of such distribution indicated that almost one third of them was accounted for those who were (27-36) years, married, having (6-10) years in work, and their Job description was workers. Almost one quarter of them was primary and secondary school graduates. Half of them had moderate income and they were equally distributed with respect to their gender. More than one third of them in both groups was accounted for workers who were electrical workers (23.3%).

Table 2. Comparative difference between the Study and Control Groups Relative to their knowledge about Occupational Health dimensions Pre- test

Occupational Health Dimensions	Study Group		Control Group		d f	t	P
	N	Mean	N	Mean			
Age	30	18.8000	30	19.1667	29	-0.847	0.400
Genetic	30	23.9333	30	23.5333	29	0.918	0.363
Psychological	30	21.0667	30	21.0000	29	0.207	0.836
Physiological	30	49.0000	30	49.2000	29	-0.182	0.857
Social	30	40.0000	30	41.8667	29	-3.071	0.173
Nutritional Pattern	30	30	19.6667	30	19.8333	29	-0.611
Rest and Exercise	30	11.0000	30	10.8667	29	0.660	0.512
Medication Use	30	10.0000	30	10.5333	29	-3.395	0.241

df=Degree of freedom; N=Number of subjects in each; P: Probability level (P value ≤ 0.05); T=t-test value.

This table revealed that there was no significant difference between the study and control groups relative to their knowledge about occupational health dimensions in the Pre-test.

Table 3. Comparative difference between the Study and Control Groups Relative to their Knowledge about Occupational Health Dimensions in the Post-test I

Occupational Health Dimensions	Study Group		Control Group		d f	t	P
	N	Mean	N	Mean			
A g e	30	23.2667	30	22.8000	29	1.479	0.009
Genetic	30	27.7333	30	21.3333	29	13.330	0.000
Psychological	30	30.3333	30	46.1667	29	-18.834	0.000
Physiological	30	52.6000	30	39.3667	29	24.293	0.000
Social	30	45.4667	30	19.2667	29	57.707	0.000
Nutritional Pattern	3 0	25.6667	30	10.8000	29	40.808	0.000
Rest and exercise	30	11.6000	30	10.6667	29	4.474	0.000
Medication Use	3 0	11.2667	30	11.3333	29	-0.302	0.041
Safety Devices	3 0	14.2000	30	19.2000	29	-11.324	0.000
Health System	30	28.6667	30	19.2000	29	22.112	0.000

df=Degree of freedom; N=Number of workers in each group; P: Probability level (P value ≤ 0.05); T=t-test value.

This table depicted that there was a significant difference between the study and control groups relative to their Knowledge about occupational health dimensions in the post-test **I**.

Table 4. Comparative difference between the Study and Control Groups Relative to their Knowledge about Occupational Health Dimension Post-test II

Occupational Health Dimensions	Study Group		Control Group		d f	t	P
	N	Mean	N	Mean			
Age	30	23.4000	30	23.7333	29	-1.042	0.002
Genetic	30	27.8000	30	21.5667	29	13.127	0.000
Psychological	30	30.4333	30	47.9333	29	-18.420	0.000
Physiological	30	52.6000	30	40.1000	29	21.434	0.000
Social	30	45.5333	30	19.8667	29	63.323	0.000
Nutritional Pattern	30	25.8000	30	11.2000	29	48.268	0.000
Rest and Exercise	3 0	11.6333	30	10.8000	29	4.665	0.000
Medication Use	30	11.5000	30	11.3333	29	0.77	0.001
Safety Devices	3 0	14.5333	30	19.6333	29	-23.093	0.000
Health System	30	29.1000	30	19.2000	29	22.112	0.000

Df=Degree of freedom; N=Number of workers in each group; P: Probability level (P value ≤ 0.05); t=T-test value.

Table (4) shows that there was highly significant difference between the study and control groups relative to their Knowledge about occupational health dimension in the post-test **II**

Discussion:

Throughout the course of data analysis, it is depicted that one third of the workers in the study group and more than one quarter of the workers in the control group are accounted for

the highest proportion of age between (27-36) years old (Table 1). This fact provides an evidence that workers who are performing such type of work are young adults.

In the workplace, the workers can be nominated for the position when they are males and females and young where tasks and activities can be carried out efficiently. In 1995 , there were 6.6 million workers, who made the work force in United State were of (25-30) years old [4].

More than one third of the workers in both groups are married (Table 1). Usually, working class individuals prefer to have marriage at early age rather than others in our society. For instance, one study was conducted to identify worker's awareness and compliance with occupational health nursing and safety measures married workers were accounted for the majority of the sample (95%) [7].

One third of the workers of both groups has less than (6) years of employment (Table 1). Such finding presents an evidence that there is a good number of people who are recently employed.

A study of workers' educational health programs for protection against occupational disease in plastic industry had reported that the most frequent duration of employment of workers was for (5) years of employment which was accounted for (45%) [6].

More than one quarter of the workers in both groups are accounted as higher proportion for those who are secondary school graduates (7) (Table 1).This result supports the fact that people in our society has low opportunity to continue their education due to their socioeconomic status. So ,they decided to have a job rather than education.

Relative the greater number of these workers has somehow sufficient income in both groups (Table 1). It provides supportive evidence that these workers are coming out of the middle social class and preferred to be employed rather than having college or higher education .

In a study which was conducted to identify the sociodemographic characteristic of workers, the greater number of them were earning somehow sufficient income (60%) [8].

The large number of workers in both groups are accounted for those who has type of work as electrical ones and those who have a job description as worker (Table 1). Where by, both factories depend on the electrical workers rather than other type of work.

Prior to the implementation of the education program, a pre-test study is administered to both groups (study and control). Findings reveled that there is no significant difference between the two groups. In other words, workers in both groups have equal level of knowledge about occupational health dimensions (Table 2).

Immediately after the completion of the education program,post-test1 is administered to both groups results have indicated that there is significant difference between the study and control groups (Table 3). This depicts that the study group workers' knowledge about occupational health dimensions has improved as results of their exposure to the program. So, they have gained an occupational health education-wise benefits.

To approve that there is long-term benefits-wise of occupational health education, post-test II is administered for both groups two weeks later on. Results have depicted that the study group participated have acquired sufficient bulk of knowledge about occupational health dimensions. So, there knowledge remains for a long run (Table 4).

It was stated in a study that the reduction of occupational disease, injuries and deaths will necessarily require or afforded in training and education [8]. So, workers need to be better informed and educated in the use of occupational safety procedures and equipment,

particularly in those industries that involve relatively high risks, where the positive impact of these measures in such industries can be significant.

Recommendations:

1. Occupational health dimensions oriented health education program and training can be designed, constructed and implemented for workers to increase their awareness toward the impact of work hazard and occupational health.
2. Direct cooperation between Ministry of Health , Ministry of Minerals and Ministry of Labor and Social Affairs, supervision of occupational health and monitoring the work environment.
3. Medical and health staff at the workplace and health clinics should be attend regularly and qualified staff to assigned for such tasks to provide better quality of health care.
4. More studies can be carried out on a large sample size with an emphasis on the components of work with all types of works.

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