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UNREGISTERED WORK INJURIES IN A TEXTILE FACTORY

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الخلاصة:

كان هناك ٦٢١ إصابة غير مسجلة في المنشأة العراقية للغزل والنسيج على مدى ثلاث سنوات (١٩٧٨ - ١٩٨٠) أي بنسبة ٨١.٣ لكل الف عامل في الوقت الذي كان معدل عدد العمال السنوي (٢٥٤٤) عامل. لقد تبين ان هناك قيمة معنوية في وقوع الاصابات بين اقسام المعمل المختلفة كما كان هناك تناسب طردي بين وقوع الاصابات والعمر من جهة ومدة الخدمة من جهة اخرى. لقد تبين من الدراسة بأن الاصطدام بالاشياء كان اكثر سبب لوقوع الاصابة (٤٦٪) وكانت نسبة حدوث الاصابات بين النساجين والغزلين (٢٥.٢٪، ١٨.٨٪) اعلى من بقية النسب في المهن الاخرى. شكل عدم استعمال وسائل الادامة بالشكل الصحيح اعلى نسبة كواسطة لوقوع الاصابة تبين ان هناك قيمة معنوية في وقوع الاصابات بين اشهر السنة بينما لم يتبين اي قيمة معنوية في وقوع الاصابات بين ايام الاسبوع. كما بينت الدراسة بأن سلوكية هذه الاصابات هي نفس سلوكية الاصابات المسجلة من حيث اسبابها وطبيعتها.

SUMMARY:

There were 621 of unregistered injuries in the Iraqi State Establishment of Textile over a period of three years (1987-1980). This makes the rate of accident occurrence 81.3 per thousand at a time when the annual average number of workers was 2544. There was a significant difference in accidents occurrence ($P < 0.001$) in the various sections of the factory. There was a positive proportion between accident and the age as well as the duration of services.

The most prevalent cause was striking against objects (46.6%) and the highest rate of accident occurred to spinners and weavers 25.2% and 16.8% respectively). The most prominent accident agency was misuse of maintenance tools (50.2%). Wounds were the most frequent type of accidents (49.7%). There was a significant difference in accident occurrence among the months but not the days of the week. Our study showed that the behavior of the accidents

unregistered by form No. 2 was the same as those registered by it.
Key word: Unregistered accidents, Textile, Occupation.

INTRODUCTION:

Textile industry is the biggest and the oldest industry in the Arab World in general⁽¹⁾, and in Iraq in particular, because of the large number of workers employed in it which totalled 47793 workers of both sexes⁽²⁾ and constituted 5% of the total size of the labour power in Iraq⁽³⁾. A study⁽⁴⁾ conducted in the Iraqi State Establishment of Textile in 1979 showed that there was a loss of 1913 days accounted for 10.7% out of the total day losses 17736 caused by sickness absence due to work accidents such as burns, wounds and poisoning. Another study⁽⁵⁾ showed that the accidents rate according to form No. 2 (form issued according to Ministry of labour regulations) was 31.9 per 1000 which constitutes five times the rate of accidents for Iraqi working class⁽⁶⁾. These accidents caused a loss rate of 3.5 days in addition to other unforeseen losses for treatment and technical purpose. This may be attributed to the industrial processes of preparing cotton and threads during the processes of finishing and dying⁽⁷⁾, or to excessive noise exposure⁽⁸⁾. Such industrial processes often include high concentrations of cotton dust which usually result in causing upper respiratory diseases⁽⁹⁾ and consequently increase the occurrence of accidents⁽¹⁰⁾. The evidence shown above indicate that the accidents registered in form No. 2 were high in Textile Industry In Iraq.

We suspect that the rate of unregistered accidents in form No. 2 were even higher than the ones which were reported in similar studies which were conducted abroad⁽¹¹⁾.

Since finding out the real size of accidents is one of the effective measures for determining the level of health and safety and knowing the real size of the losses, we were prompted to conduct this prospective study.

MATERIALS AND METHODS:

A questionnaire was specially designed for registering every accident which occur in various departments of the Iraqi State Establishment of Textile which employ 2400 workers over five consecutive years starting from 1st June

1978. However, the study was stopped due to the extraordinary circumstances and it was decided to analyse the data collected up to 31 Dec. 1980 (which made the period of study 3 years only) by using the computer of the College of Engineering but the data were transferred again to the National Computer Center for finalization because the College of Engineering has changed its place. After studying the results and tables it was decided:-

1- To restrict the study to males only, for it was shown that the percentage of accidents involving females was very small (4.5%), in contrast with the total number of accidents (1210).

2- The results will be discussed according to their percentage because of the lack of complete data about the number of workers employed in every occupation, duration of services and their socio-economic status.

We also could not find any similar study with which we could compare our results except the study which we mentioned earlier and which was conducted in the same sector⁽⁶⁾.

- 3- Only unregistered accidents of one or more day losses were studied.
4- Statistical method. Chi square test was used when ever applicable.

RESULTS:

The results showed that there were 621 unregistered injuries which occurred among males over three years period representing an average of 81.3 per 1000 noting that the average of total figure of workers in the plant was 2544 workers. The highest rate of accident occurrence took place in the store section (table 1: 254.2 per 1000 per year) while the spinning section showed the lowest rate (25.8 per 1000). Weavers showed the highest incidence of accidents occurrence (25%) followed by spinniners (16.8%) and electricians (12.4%) (Table 3).

The most important cause of accidents occurrence was striking against objects (46.6%) while the most prevalent agency (table 4 A + B) was misuse of maintenance tools (50.4%). Wounds were the most frequent type of accidents (49.7%) followed by contusions (36.7%), burns and fractures (39%) and bruises (3.4%), the rest belonged to different types of accidents (2.4%). April showed the highest incidence (12.7%) followed by December (10.3%) while the lowest incidence was in July (5.0%) (Table 5).

DISCUSSION:

Over three years period (1978-1980) 621 unregistered injuries occurred in the Iraqi State Establishment For Textile. There was a significant difference ($P < 0.00$) in the accident occurrence in the various sections of the factory (Table 1). The disparity in the percentage of the accidents occurrence between the different sections could be attributed either to the difference in the nature of work in each section or to the differences in the understanding of health and safety instructions by the manager and his employees. There was a positive proportion between accidents occurrence and the age of the workers as well as the duration of service (Table 2). This is contradictory to internationally established form⁽¹²⁾ but is in agreement with the local study⁽⁵⁾. There were 23.5% illiterates (Table 3) most of whom were weavers and spinners but this rate was still lower than showed by the local study⁽⁵⁾, due to effectiveness of literacy programme which shows the importance of its continuation. The high incidence of accidents

Table 1: The rates of accidents per 1000 workers among different sections during the period 1978-1980 (3 years).

Sections	Total No. of Workers	Accidents No %	%	rate* per 1000 per year
1) Spinning preparation	893	68	11.0	76.1
2) Spinning 1	1163	30	4.8	25.8
3) Weaving preparation	1484	64	10.3	43.1
4) Weaving	1459	77	12.5	52.8
5) Spinning 2	513	24	3.8	46.8
6) Factory No. 5	499	46	7.3	92.2
7) Repairing	207	44	7.1	212.6
8) Electric	190	20	3.2	105.3
9) Store	118	30	4.8	254.2
10) Others	1103	218	35.2	197.6
Total	7629	621	100	☆

☆ The average rate for the whole sample was 81.3 per 1000

$$x^* = 62.05$$

$$df = q$$

$$P < 0.001$$

Table 2: The number of accidents according to age (A) and duration of service/year (B).

A age in years	Accidents		B- duration of service in years	Accidents	
	No	%		No	%
-24	35	5.6	-2	22	3.5
25-34	170	27.4	3-5	92	14.8
35-44	196	31.6	6-10	95	15.2
45±	220	35.4	11±	412	66.5
Total	621	100		621	100

Table 3: The relation between accidents occurrence and the level of education among different occupations during the period 1978-80.

Occupations	Illiterate	Read and Write	Primary School	Others	Accidents	
					No	%
1) Weaver	32	90	31	3	156	25.2
2) Spinner	32	59	10	3	104	16.8
3) Electrician	16	54	2	4	76	12.4
4) Machinist	5	16	12	1	34	5.3
5) Spinning Worker	5	24	3	-	32	5.2
6) Servant	8	18	2	-	28	4.6
7) Mechanic	9	14	3	-	26	4.0
8) Weaver assistant	7	17	1	-	25	4.0
9) Spinner assistant	11	7	1	-	19	3.0
10) Others	21	90	10	-	121	19.5
Total	146	389	75	11	621	100

occurred among weavers, spinners, electricians (Table 3) could be due to the absence of safety measures, their poor compliance to safety instructions and inefficient training specially that there was a certain rate of illiteracy among these occupations, it could also be due to striking against objects because of the poor organization and disarrangement of machines and tools in the factory. The most important cause of accidents occurrence was striking against objects (Table 4) followed by exhaustion, such accidents are attributed to the same reasons previously stated. The misuse of maintenance tools (Table 4) reflects

Table 4: Shows the Causes (A) and the Agency (B) of accidents in the textile factory during the period 1978-80.

A-Causes	Accidents		B-Agency	Accidents	
	No	%		No	%
Striking against Objects	290	46.6	Maintenance equipment	312	50.2
Exhaustion	87	14.0	Barrel	32	5.2
Trapping	54	8.7	Nail	22	3.5
Stuck by falling Objects	46	7.4	Cart	16	2.6
Person falling	33	5.3	Rolls	15	2.4
Harmful material	17	2.7	Foreign body	14	2.3
Heat	12	1.9	Machine belt	7	1.1
Electric	9	1.5	Shuttle	5	0.8
Current			Others	198	31.9
Others	73	11.8	Total	621	100
Total	621	100			

the need for a training programme in the proper handling of materials and machinery together with a continuous safety inspection. The high incidence of wounds and other types of accidents stress the need for the industrial first aid officer in each section. There was a significant difference of accidents occurrence among the months of the year ($P < 0.01$) while there was no significant difference among the days of the week (Table 5).

Conclusion:

We conclude that the accidents unregistered by form No. 2 behaved the same as those registered by it in terms of their causes and nature of occurrence in addition to the fact that they incur losses in time, economy and human beings which necessitate recording in order to prevent them and compute the actual losses whenever a need arises.

Table 5: Shows the accidents occurrence among the months of the year and day of the week during the period 1978-1980.

Months	Accidents		Day	Accidents	
	No	%		No	%
January	55	8.9	Saturday	111	17.9
February	49	7.9	Sunday	110	17.7
March	57	9.2	Monday	107	17.2
April	79	12.7	Tuesday	94	15.0
May	53	8.5	Wednesday	93	15.0
June	44	7.1	Thursday	75	12.1
July	31	5.0	Friday*	31	5.0
August	47	7.6			
September	56	9			
October	45	7.2			
November	41	6.6			
December	64	10.3			
Total	621	100		621	100

For months

$X^2=28.7$

d.f=11

P<0.01

For days

$X^2=9.5$

d.f=5

P>0.05

Note: Friday not included in the test of Sig

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شكر وتقدير

يتقدم فريق البحث بالشكر والتقدير للسيد مدير عام المنشأة العمرانية للغزل والنسيج وكذلك للسيد رئيس قسم البرمجة والانسة سناء عبدالجبار في المركز القومي للحاسبة الالكترونية.