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Effect of Occupational Health Hazards on the reproductive health of workers' women in Readymade Garments Industry Port- Said City

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Abstract: **Occupational Safety and Health (OSH) is an important aspect which allows an institute to systematically manage the safety and health of the workers in a workplace. Aim of this study is to: To determine the effect of occupational hazards on reproductive health of mothers and Their children in dressing factories in Port- Said City. Sample: the study was carried on all workers (84 working Women's) in the two Readymade Garments Factories Port- Said City, Suez Canal factory, Investment. Research design A across sectional research design was utilized in this study. Methods Data are collected using: ' Structured Interview Questionnaire sheet, It is developed by the researcher based on literature review and is composed of six main parts. Results. Mean age of working women were 36.6± 8.8., there were statistically significant relation between noise, regularity, there was statistically significant relation between falling down & pregnancy outcome,and exposure to chemical and there was a statistical significant between exposure to cigarette smoking, drink coffee, working more than 8 hours, depression respectively. Conclusion. The Pregnant workers are exposed to many types of occupational hazards which may effect on their health status and health of their babies. Recommendation. Continuous training program for pregnant women to improve their health, their work conditions require monitoring and improvement. Training program for occupational nurse to evaluate pregnant women conditions and follow up them**

Keywords: Occupational hazards, **Reproductive health, Workers' women.**

1. INTRODUCTION

Women are defined as a particular risk group with regard to occupational health and safety and are under safety within the work environment, due to the negative impact that occupational risk factors may have on fertility-related variables [(1, 2)]. Therefore, the protection and support of pregnant healthcare professionals within their working environment during pregnancy and particularly the development of appropriate strategies in this regard, must be considered high [(1, 3)].

According to **Central Agency for Republic Mobilization and Statistics in Egypt.2017)**

Number of females in Egypt is 45.9million. Percent of women sharing in work labour force was 22.9% from age (15-64 years). The percentage of employed women in Egypt is 16.9% for 2017.

Women are exposed to occupational risk factors at their places of work during pregnancy such as spontaneous abortion, stillbirth, premature birth intrauterine growth retardation and congenital anomalies may occur, and certain malignant diseases may develop during childhood. Certain. Psychosocial risk factors originating from the workplace environment (shiftwork, stress etc.) may also lead to spontaneous abortion, premature birth and pregnancy-related complications high [(4, 6,8)].

The international labor organization (ILO) predestined that occupational accidents and work-related diseases induce over 2.3 million deaths per year, of which over 350,000 results from occupational accidents and close to 2 million from

work- related diseases. In add-on to these fatalities, it is judged that there were over 313 million non-fatal occupational accidents) **(4, 16 ,8).** Furthermore, the **World Health Organization (WHO)** stipulated that workplace conditions reckoning for over a third of back pain, 16% of hearing loss, nearly 10% of lung cancer; and that 8% of the burden of depression. Moreover, every three-and a half minutes, somebody in the European Union (EU) dies from workplace-associated lawsuits. This means nearly 167,000 deaths a year in Europe alone, as a moment of either work-related accident (7,500) or occupational diseases (159,500) high [3, 9,5].

The Occupational health nurse (OHN) plays a major role in helping to protect and better the health of working populations. The purpose of the role of OHN is to authorize employees to make informed health decisions while also overseeing the health dangers and costs connected with the employment relations between employees and the business high [1, 6].The centering of the occupational health nurse is on keeping employees healthy, preventing illness and accidents and ensuring a safe business or industrial surroundings. The occupational health nurse is in an ideal situation to supply guidance, counseling, grooming, and coaching for employers who want to improve their health high [1, 3,7].

Ready mad garment industry Fails the most significant sector of earning foreign currencies that strengthen the economy of port-said for the last couple of decades. At the same time this industry opened a replacement door of employment for the rural marginal people. The working atmosphere of the clothing factories is not congenial to health and the income level of the staff during this business is incredibly poor to stay up their minimum living needs in the society. As a result, the workers in the readymade apparel industry aren't physically and mentally sound to do the work efficiently high [5, 8]. For pregnant women.

The exposure assessment of potential hazards for pregnancy was conducted by OHPs based on knowledge of workstations in early pregnancy. Seventeen potential hazards were selected [3]: chemical hazards; night work (between 9:00.p.m and 5:00 a.m.); physical hazards (standing > 1 h a day, stair climbing (several times a day), forward bending ≥1 h aday, difficult postures (upper and/or lower limbs), heavy lifting > 5 kg, repetitive tasks, vibration (driving), temperature (>30 °C, <10 °C), noise >80 dB, work on industrial machines); ionizing radiation and electromagnetic fields. The responses were based on a 4-point Likert scale ranging from 1: no; 2: very rarely (a few per month); 3: sometimes (a few times a week); 4: frequently (a few times a day or more). Then, all these variables were transformed into binary variables and were coded as either (to indicate the reference category) or 1 (to indicate the category at risk). For all the variables, the category at risk was the “frequently” category (level 4) except for three variables: ionizing radiation (level from 2 to 4); night work (at least one night); Electromagnetic fields (level from 3 to 4). A cumulative index of occupational hazards for pregnancy in four classes (0, 1–2, 2–4, ≥ 5 risks) was built using these seventeen occupational variables high [7].

Aim of study: To determine the effect of Occupational Hazards on Health Status of Mothers and Their children in dressing factories in Port- Said City.

Research objectives

1- Assess types of occupational hazards which effect on workers’ women's in the readymade garments factories in Port-said city.

2- Identify relation between occupational hazards and chronic illness on workers’ women's in the readymade garments factories in Port-said city.

3- Enumerate effect of occupational hazards on reproductive health of workers’ women's in the readymade garments factories in Port-said city.

4- Determine effect of occupational hazards on health of mothers and their babies in the readymade garments factories in Port-said city.

2. SUBJECT AND METHODS

I. Technical Design:

Research Design:

A- Study Design & Setting: -The study is carried out using a across sectional research design.

B- **Study Sample** All workers (84 workers women) in the two Readymade Garments Factories Port- Said City (Suez Canal factory, Investment) .

C- Tools of data c0llection: Data are collected using the following tool.

Tool: Workers' Structured Interview Questionnaire: It is devel0ped by the researcher and is composed of six main parts.

Part 1: Developed to collect data related to socio-demographic characteristic of the workers' women: such as age, family numbers, marital status, level of education and monthly income.

Part II: Includes questions related to work characteristics: such as work shifts, daily working hours, years of experience, and position during work.

Part II1: - Includes questions related to menstrual and gynecological history such as age of menarche, regularity of menstrual cycle……. etc.

Part IV: Includes questions related to date of first pregnancy, number of delivery, number of abortion, follow up of pregnancy ……etc.

Part V: - Includes questions related to effect of occupational hazards on reproductive health such as did you think occupational hazards effect on sterilization, pregnancy, sexual health….etc.

Part VI: includes questions related to safety measures in the factory such as, Overcoat**,** Gloves**,** Masks**,** Ear plugs**.....**etc.

Scoring of tool: -

Validity:

It was ascertained by a jury consisting of five experts in the field of family and community health nursing in order to check the relevance, coverage content, and clarity of the questions and the appropriate modifications were done accordingly.

Pilot Study:

A pilot study was carried out on 10% of working women. It was done to test the clarity and practicability of the tools. The results obtained from the pilot study and the opinion of expertise helped in modification of the tools. Accordingly, modifications were done and the final form was developed. Those subjects were not included in the main study sample.

Reliability:

Cronbach's α coefficient was calculated to assess the reliability of the developed tool through their internal consistency. a pilot study was carried out on (28) of working women. The necessary modifications are done accordingly. The reliability is assured by calculating Cronbach's alpha coefficients f0r each factor, it was high (0.79).

Field work: -

The study was conducted from the beginning of April 2018till the end of December 2019

96*+. Data was collected through about three days a week to each factory. In every day of data collection, the researcher interviewed with about twelve to thirteen (12-13) of worker women. Full explanation about the purpose of the study was given to all worker women and an oral consent to participate in the study was obtained prior to answering the questionnaire sheet. The study tool was filled by the worker women and it was distributed and answered within 20-30 minutes then collected. The questionnaires filled by worker women in clinical areas.

The present study consumed about 9 months, two months of them for obtaining the official permissions, pilot study and modifications of the tool. The next four months consumed for data collection while, the last three months for data entry and statistical analysis.

At the factories visited, there were three levels of female workers: quality inspectors, machine operators, and helpers. We interviewed all of them. The quality inspectors, sometimes called "quality girls", stand in front of a table 10–12 hours per day to check the quality of the products and affix a tiny round sticker marked "QC" to indicate that the product has passed

the quality check. The sewing-machine operators sit on a small tool continuously running a sewing machine on average 10–12 hours each day. Each machine 0perator does one task for the entire day and week. There is no task rotation. The "helpers", who have the lowest position on the production floor, work in a standing position and do different types of work, such as cutting thread, folding the shirts, placing collar inserts, and ironing the product. These women do the most repetitious jobs on the production floor. Once again, they are allocated one task (eg, cutting thread), and they do every hour, every day, every week. The work is piecework: each worker is expected to meet a daily quota. They must stay working until this quota is met.

Ethical Consideration:

The study will be approved by the scientific Ethical Research committee of the faculty of nursing Port Said University.

The agreement for the participation of the subjects was taken after the aim of the study was explained to them. They were given an opportunity to refuse the participation, and they were assured that the information given would be treated with confidentiality and used for the research purpose only. The aim of the study was explained to the director of each factory to take his permission to do this study.

Statistical analysis:

All collected data were organized, categorized, tabulated and analyzed according to the type of each data.

Statistical analysis of the data

Data were collected and entered into a database file. Statistical analyses were performed by using the Statistical Package for Social Science (SPSS), version 10. Data were described by summary tables and figures. Data were presented using proper statistical tests that were used to determine whether there were significant relations. Qualitative data were described and summarized using numbers and percentage. Comparison between different groups regarding categorical variables was tested using chi-square test, fisher test and MC Nemar test. Reliability of statistics was assessed using Cronbach's (α) test.

3. RESULTS

Table1 revealed that the socio-demographic characteristics of the studied working women. It revealed that (40) 47.5% of studied worker women were their age from 30 to less than 40 with mean age were 36.6±8.8 and (52) 61.9 % 0f them had diplomat teaching. (71) 84.5% of the studied working women were married and (50) 59.5% 0f them had four and more children and 64.3% of them didn't have enough income and crowding mean was1.7±0.6.

Table2: distribute the 0ccupational characteristics of the studied working women .59.5% of the studied working women were tailor and 54.8% of the working the Investment and 89.3% of them work from 6-8 hours per day. 40.5% of them had long standing at work and 66.7 % of them lift heavy objects and 48.8% of them carry heavy dressing.

Table 3: it represents that 47.6 % of worker women have a chronic illness. 14.3% of then were have anemia then. 11.9% of them have diabetes and hypertension. Mean ±SD of menarche age were 12.8±1.4. 65.5% of the worker women use contraceptive methods and 45.2% of them were used IUD. 21.8% of the worker women had complications due to contraception.9.1% of them had bleeding the infection and back pain& overweight (3.6%) and 75% of the worker women didn't want to change the current contraceptive methods.

Table 4: show that (52)61.9% of working women joining the work immediately after marriage and (67)79.8% of them have first pregnancy in the first year of marriage. (71) 84.5% of the working women Had regular antenatal care visits and 40.5% of them suffered disease during pregnancy (24) 28.6% of them Had anemia. (21)25.0% of them had diabetes mellitus and (20) 23.8% hypertension.

Figure1: distribute hazard0us exp0sures at the w0rkplace of the studied w0rking women. It represents that (71) 85% of them suffering 0f (genital infection exposure t0 chemical substances). Exp0sure to n0ise (72) 85.70% The hearing dis0rder (58)69% and blurred visi0n (55) 65.5%.

Figure 2: the figure shows the hazardous exposures at the workplace of the studied working women during Pregnancy that (54) 64.3% of the working women left heavy objects then (44)52.4% of them suffer sadness and Depression and (42)50% exposed to smoking.

Figure3: reveled the effect of occupation on reproductive health of working women. It shows that 59(70.2%) Had tumors then (29)34.5% intrauterine fetal death.

Figure 4: show safety measures in the factor Readymade Garments Factories it represents that only 29% using ear plugs and 20% overcoat.

Table 5: Clarifies that, there were statistically significant relation between falling down & drink coffee and complicati0n during pregnancy. p≤ (0.007*), (0.021*) respectively.

Table 6: Illustrate that**,** there were statistically significant relation between noise and regularity of menses p≤ (0.046*).

Table 7: Show that, there was statistically significant relation between falling down & pregnancy outcome p ≤ (0.001*), exposure to chemical p ≤ (0.031*). Also there was a statistical significant between exposure to cigarette smoking, drink coffee, working more than 8 hours, depression p ≤ (0.004*,0.004*,0.002*,0.004*) respectively.

Table (1): Distribution of the Socio-demographic characteristics of the studied working women (n=84).

Socio-demographic characteristics	Studied working women (n=84)	
	No.	%
Age (years)		
20-<30	18	21.4
30-<40	40	47.5
40-<50	18	21.4
50≤	8	9.5
Min-Max, Mean ±SD	**22.0-65.0**	**36.6±8.8**
Educational level		
Illiterate	1	1.2
Read and write	7	8.3
Basic education	9	10.7
Diplomat	52	61.9
University graduate	15	17.9
Marital status		
Married	71	84.5
Widow	6	7.2
Divorced	7	8.3
Number of family members		
2-3	34	40.5
4 or more	50	59.5
Income		
Enough	54	64.3
Not enough	30	35.7
Number of rooms		
1-2	67	79.8
3-4	17	20.2
Crowding index (person/room)		
1 or less	23	27.4
More than 1	61	72.6
Min-Max, Mean±SD	0.5-3.0	1.7±0.6

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Table (2): Distribution of the Occupational characteristics of the studied working women (n=84).

Occupational characteristics	Studied working women (n=84)	
	No.	%
Current job		
Tailor	50	59.5
Assistant tailor	18	21.4
Others	16	19.1
Workplace		
Suez canal factory	38	45.2
Investment	46	54.8
Duration of experience (years)		
1-<5	23	27.4
5-<10	23	27.4
10-<15	20	23.8
15≤	18	21.4
Duration of daily work (hours)		
6-8 hours	75	89.3
More than 8 hours	9	10.7
Long Standing at work		
No	50	59.5
Yes	34	40.5
Lift heavy objects		
No	28	33.3
Yes	56	66.7
Cartoon boxes	2	2.4
Dressing	41	48.8
Wheels	1	1.2
Different objects	12	14.3

Table (3): Distribution of the Medical and menstrual history of the studied working women (n=84).

Medical and menstrual history	Studied working women (n=84)	
	No.	%
Suffer from chronic illness		
No	44	52.4
Yes	40	47.6
Diabetes		
If yes what is		
Diabetes	4.0	4.8
Hypertension	5.0	6.0
Anemia	12.0	14.3
Asthma	8.0	9.5
Coronary heart disease	1.0	1.1
Diabetes & Hypertension	10.0	11.9
Menstrual history		
Age of menarche (years)		
Min-Max, Mean ±SD	10.0-16.0	12.8±1.4
Use of contraceptive method		
No	29	34.5
Yes	55	65.5
If yes what is		
IUD	38	45.2
Injectable	12	14.3
Oral pills	5	6.0
Complications due to contraceptives	**[n=55]**	
None	43	78.2

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Yes	12	21.8
If yes what is		
Bleeding	5	9.1
Infection	2	3.6
Overweight	2	3.6
Affect concentration	1	1.8
Back pain	2	3.6
Had to change method to suit work conditions	**[n=12]**	
No	9	75.0
Yes^	3	25.0

Table (4): Distribution of the Obstetric history and antenatal care of the studied working women

Obstetric history and antenatal care	Studied working women (n=84)	
	No.	%
Obstetric history		
Timing of joining work in relation to marriage		
Immediately after marriage	52	61.9
During marriage	28	33.3
After delivery	2	2.4
After long duration of marriage	2	2.4
Timing of first pregnancy		
1st year of marriage	67	79.8
During 2nd year of marriage	13	15.4
After 2nd year of marriage	4	4.8
Antenatal care		
Regular antenatal care visits		
No	13	15.5
Yes	71	84.5
Suffered diseases during pregnancy		
No	50	59.5
Yes	34	40.5
If yes what is		
Diabetes Mellitus	21	25.0
Hypertension	20	23.8
Sexual transmitted disease	16	19.0
Septicemia	8	9.5
Eclampsia	10	11.9
Urinary tract infection	14	16.7
Anemia	24	28.6

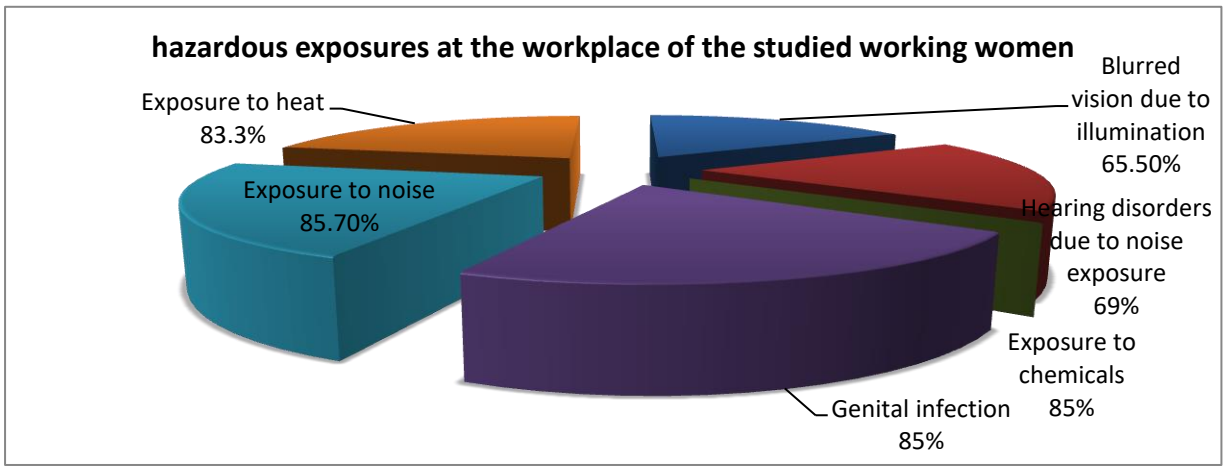

Figure 1: the hazardous exposures at the workplace of the studied working women (n=84).

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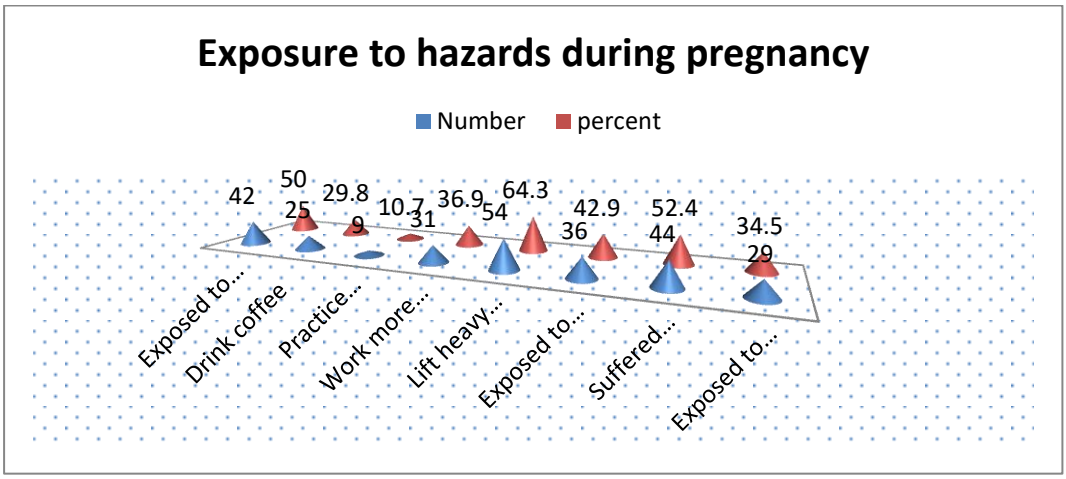

Figure 2: the hazardous exposures at the workplace of the studied working women during pregnancy (n=84).

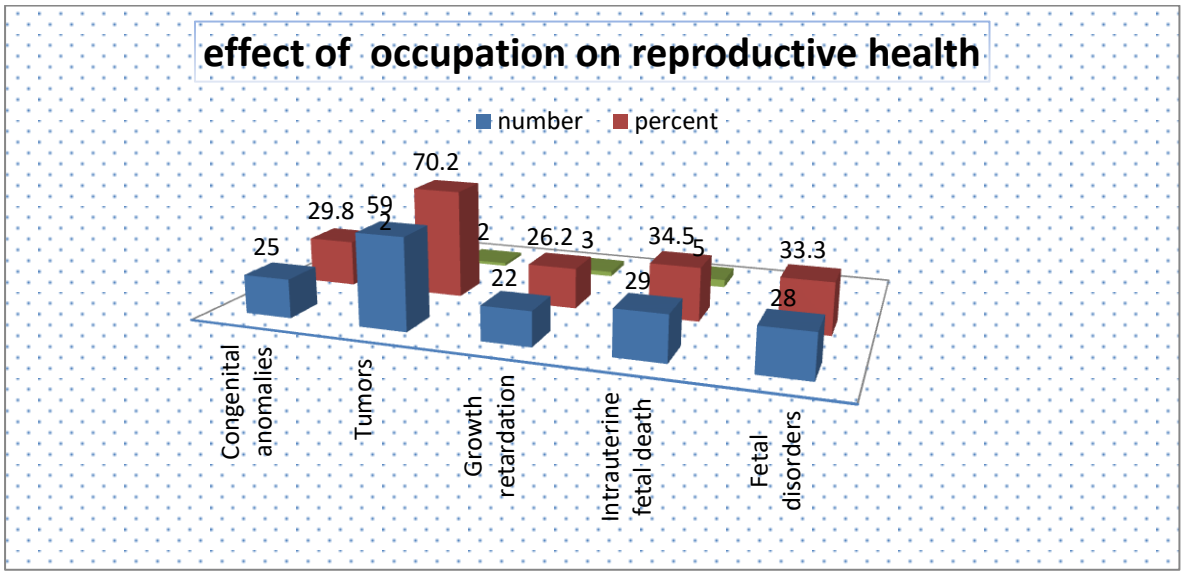

Figure 3: the opinion of working women about effect of occupation on reproductive health (n= 84

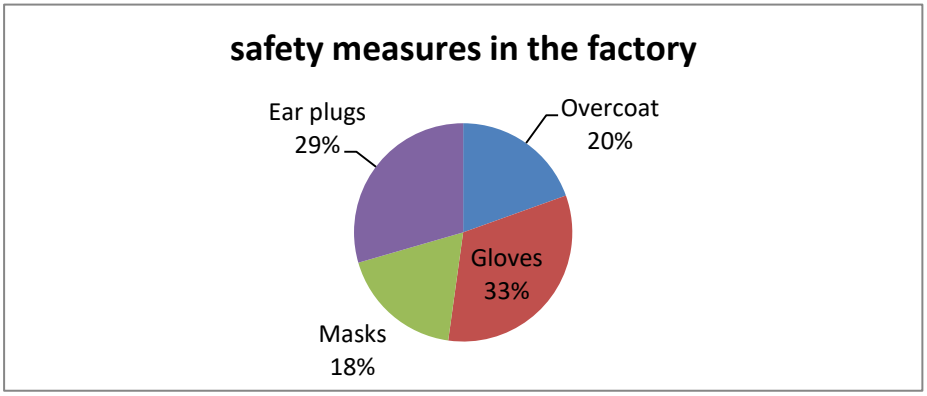

Figure (4): safety measures in the factor Readymade Garments Factories (n=84).

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Table (5): Relation between suffering complications during pregnancy and exposures at workplace among the studied working women

Exposures to hazards		Suffered complications during pregnancy^				Significance	
		Yes (n=32)		None (n=50)			
		No.	%	No.	%	X^2	P-value
Hazards at workplace							
Falling down	Yes	11	34.4	5	10.0	**7.38**	**0.007***
	No	21	65.6	45	90.0		
Exposure to chemicals	Yes	27	84.4	42	84.0	0.001	0.964
	Sometimes/No	5	15.6	8	16.0		
Exposure to heavy metals	Yes	29	90.6	43	86.0		^{FE}P=0.733
	Sometimes	3	9.4	7	14.0		
Exposure to noise	Yes	27	84.4	43	86.0		^{FE}P=1.0
	Sometimes	5	15.6	7	14.0		
Exposure to heat	Yes	26	81.3	42	84.0	0.10	0.747
	Sometimes/No	6	18.8	8	16.0		
Vibration	Yes	27	84.4	42	84.0	0.001	0.964
	Sometimes/No	5	15.6	8	16.0		
Ultraviolet radiation	Yes	28	87.5	43	86.0		^{FE}P=1.0
	Sometimes/No	4	12.5	7	14.0		
High stress	Yes	29	90.6	40	80.0	1.650	0.199
	Sometimes/No	3	9.4	10	20.0		
Dissatisfaction	Yes	28	87.5	43	86.0		^{FE}P=1.0
	Sometimes/No	4	12.5	7	14.0		
Exposures during pregnancy							
Exposed to cigarette smoke	Yes	19	59.4	21	42.0	2.360	0.125
	No	13	40.6	29	58.0		
Drink coffee	Yes	14	43.8	10	20.0	**5.32**	**0.021***
	No	18	56.3	40	80.0		
Practice exercise regularly	Yes	4	12.5	4	8.0		^{FE}P=0.705
	No	28	87.5	46	92.0		
Work more than 8 hours daily	Yes	11	34.4	18	36.0	0.020	0.881
	No	21	65.6	32	64.0		
Lift heavy objects	Yes	23	71.9	29	58.0	1.620	0.203
	No	9	28.1	21	42.0		
Exposed to accidents	Yes	14	43.8	20	40.0	0.11	0.737
	No	18	56.3	30	60.0		
Suffered sadness/depression	Yes	19	59.4	23	46.0	1.40	0.237
	No	13	40.6	27	54.0		

^ 2 females were not pregnant before

X^2: Chi-Square test ^{FE}P: P-value of Fisher Exact test *significant at P≤0.05

Table (6): Relation between regularity of menses and exposures at workplace hazards among the studied working women

Hazards at workplace		Regularity of menses				Significance ^{FE}P-value
		Regular (n=68)		Irregular (n=16)		
		No.	%	No.	%	
Falling down	**Yes**	15	22.1	2	12.5	0.506
	No	53	77.9	14	87.5	
Exposure to chemicals	**Yes**	58	85.3	13	81.2	1.0
	Sometimes/No	10	14.7	3	18.8	
Exposure to heavy metals	**Yes**	61	89.7	13	81.2	0.393
	Sometimes	7	10.3	3	18.8	

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Exposure to noise	**Yes** **Sometimes**	61 7	89.7 10.3	11 5	68.8 31.2	**0.046***
Exposure to heat	**Yes** **Sometimes/No**	57 11	83.8 16.2	13 3	81.2 18.8	0.725
Vibration	**Yes** **Sometimes/No**	58 10	85.3 14.7	13 3	81.2 18.8	0.706
Ultraviolet radiation	**Yes** **Sometimes/No**	59 9	86.8 13.2	14 2	87.5 12.5	1.0
High stress	**Yes** **Sometimes/No**	57 11	83.8 16.2	14 2	87.5 12.5	1.0

^{FE}P: P-value of Fisher Exact test ***significant at P≤0.05**

^{FE}P: P-value of Fisher Exact test

Table (7): Relation between pregnancy outcome and exposures at workplace among the studied working women

Hazards at workplace		**Pregnancy outcome [n=82]^**				**Significance**	
		Normal (n=44)		**Abnormal (n=38)**			
		No.	%	No.	%	**X^2**	**P-value**
Hazards at workplace							
Falling down	Yes No	0 44	0.0 100.0	15 23	39.5 60.5	**21.26**	**<0.0001***
Exposure to chemicals	Yes Sometimes/No	41 3	93.2 6.8	29 9	76.3 23.7	**4.64**	**0.031***
Exposure to heavy metals	Yes Sometimes	39 5	88.6 11.4	34 4	89.5 10.5	^{FE}P=1.0	
Exposure to noise	Yes Sometimes	39 5	88.6 11.4	31 7	81.6 18.4	0.810	0.367
Exposure to heat	Yes Sometimes/No	38 6	86.4 13.6	30 8	78.9 21.1	0.790	0.373
Vibration	Yes Sometimes/No	38 6	86.4 13.6	31 7	81.6 18.4	0.350	0.554
Ultraviolet radiation	Yes Sometimes/No	38 6	86.4 13.6	33 5	86.8 13.2	0.001	0.949
High stress	Yes Sometimes/No	37 7	84.1 15.9	32 6	84.2 15.8	0.001	0.988
Dissatisfaction	Yes Sometimes/No	40 4	90.9 9.1	31 7	81.6 18.4	1.530	0.216
Exposures during pregnancy							
Exposed to cigarette smoke	Yes No	15 29	34.1 65.9	25 13	65.8 34.2	**8.200**	**0.004***
Drink coffee	Yes No	7 37	15.9 84.1	17 21	44.7 55.3	**8.185**	**0.004***
Work more than 8 hours daily	Yes No	9 35	20.5 79.5	20 18	52.6 47.4	**9.236**	**0.002***
Lift heavy objects	Yes No	28 16	63.6 36.4	24 14	63.2 36.8	0.002	0.964
Exposed to accidents	Yes No	16 28	36.4 63.6	18 20	47.4 52.6	1.107	0.313
Suffered sadness/depression	Yes No	16 28	36.4 63.6	26 12	68.4 31.6	**8.387**	**0.004***

^ 2 females were not pregnant before

X^2: Chi-Square test **^{FE}P: P-value of Fisher Exact test** ***significant at P≤0.05**

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4. DISCUSSION

One of the declare aims of occupational health is to deliver a safe 'occupational environment' in order to protection the health of the workers and to step up industrial production. Only accurate knowledge of the risks and adequate training in handling them can enable the worker to adopt appropriate behavior in a hazardous working environment. A successful accident prevention program depends on leadership by the employer and safe work habits and practices by the employees high [10,11]. Therefore, the main concern of the current study is to determine the effect of occupational hazards on reproductive health of mothers and Their children in dressing factories in Port- Said City.

The present study revealed that revealed that (40) 47.5% of studied worker women were their age from 30 to less than 40 with mean age were 36.6±8.8 this results go in line with high [11, 12].who reported that **10**% of the respondents were belonging to age group of 26-30 years, 30.90 percent of the respondents were **belonging** to age group of 31-35 years, 33.63 percent of the respondents were belonging to age group of 36-40, 10.90 percent of the respondents were belonging to 41-45 years, 8.18 percent of the respondents were belonging to age gr0up 0f 46-50 years, while only 6.36 percent of the respondent we're belonging to age group of 51 & above years. **O**ccupational exposure effects on breast-feeding were an increasing concern among working women. Based on information developed in response to these requestors, information is provided for discussing. workplace exposures with patients, assessing potential workplace reproductive hazards, and help patients determine the best options for safe work in pregnancy. Appendices provide resources to address specific occupational exposures, employee groups, personal protective equipment, breast-feeding, and workplace regulations regarding work and pregnancy. These tools can help identify those most at risk of occupational reproductive hazards and improve workers' reproductive health. The information can also be used to inform research priorities and assist the development of workplace reproductive health policies.

According to **[13, 15].** high working women have a higher risk for adverse pregnancy outcomes. Thus, adverse pregnancy outcomes such as threatened abortion, preterm labor, and intrauterine growth restriction ay be associated with working status. This exploratory study identified several industries where in-depth studies are required in future to improve occupational safety in women of reproductive age

According **to** high [13 .14]. A large number of workers are also exposed to complex mixture of chemicals during various occupations such as laundering industry, textile industry, rubber industry, and so on These exposures might also have some effect on generative outcome. W0ng et al conducted a retrospective cohort study of SABs among 1752 women in the Shanghai textile industry. An advancement in the risk of a impulsively aborted first pregnancy was associated with exposure to synthetic fibers (1.89; 95% CI, 1.20-3.00) and mixed synthetic and natural fibers (3.31; 95% CI, 1.30-8.42). No increased risks were observed f0r women working with solvents, nor were significant associations observed with quantitative cotton dust or endotoxin contacts. They concluded that industrial exposure to synthetic fibers may cause SABs, and this probability should be the subject of further examination. Shavitz et al addressed possible reproductive exposures in textile manufacturing. Insufficiency cases were identified from medical registers (280 interviewed cases): preterm delivery cases and term, normal birth burden controls (454 and 605, respectively) were recognized from area hospitals. Relative to women and men employed in harmless occupations, workers in the textile industry

This study can be further extended to investigate the current OSH management practices and come up with strategies to improve them in the same context research that advocates an investigation of OSH hazards and evaluation of the critical exposure levels of those hazards in different organizations in different sectors, in the national and international contexts

5. CONCLUSION

Almost all of the study group had The Pregnant workers are exposed to many types of occupational hazards which may effect on their health. Therefore, the study was successful in attaining its aim to determine the effect of occupational hazards on reproductive health of mothers and Their children in dressing factories in Port- Said City.

6. RECOMMENDATIONS

1- Provision of special teaching classes provided with T.V, video and training supports to educate and train workers women about everything related to Occupational Health and Safety through pre- declared agenda encompassing times and dates suitable for workers. Teaching and training programs should be based on workers′ needs, appearances and abilities.

2- Stressing on the submission of the International Ideals of Occupational Health and Safety in field of work to improve their performance.

3- Periodic examination for women workers for early detection of occupational hazards to monitor the health status for women and her baby and early case finding.

4-Continuous training program for pregnant women to improve their health, their work conditions require monitoring and improvement.

5-Training program for occupational nurse to evaluate pregnant women conditions and follow up them

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