

OCCUPATIONAL HEALTH HAZARDS AND SAFETY MEASURES AMONG BAKERY WORKERS AT PORT SAID CITY

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ABSTRACT

Background: It has been reported that workers in bakeries face numerous corporate health hazards at the location of work, with lack of awareness and caution to ward hazards and safety measures. **Aim:** To assess Occupational Health Hazards And Safety Measures Among Bakery Workers At Port said City. **Subjects and method: Design:** Cross sectional research design was used. **Setting:** The study was conducted at all bakeries affiliated to Port Said city districts **Subjects:** Multi stages sampling was used in this study. Bakers working in bakeries affiliated to Port Said city, number: 90 bakers, were included in the study. **Tools:** Three tools were used to collect the data for the study, namely Structured Interviewing, an observational checklist and Environmental safety checklist and Environmental safety checklist. **Results:** 77.8% of bakers did not use precaution tools to protect themselves at work , about 90 bakers use mask and 90% bakers use gloves. Only 8.9% of bakers attend training sessions **Conclusion:** The study concluded that more than two thirds of bakers suffering from headache and electric shocks due to exposure to physical hazard, the majority of bakers have chest allergies and allergic rhinitis due to exposure to chemical hazard, the majority of them have back pain due to exposure to mechanical hazard and the majority of them have Psychological pressure and nervous tension due to psychological pressure. **Recommendations.** Continuation of work-related health platform to the whole bakeries w workers to promote their practice and information for anticipation of work related hazards of health.

Key words: Bakery Workers, Occupational health hazards, Safety measures

INTRODUCTION

It has been documented that health is considered a positive confirmation of bodily, perceptual, and societal safety, not only the nonexistence of sickness so occupational health described as the long-lasting preservation of the capability of working of the bakeries workers, taking into consideration work-related, environmental, societal, and standard of living factors of well-being (Walker, Hester & Weiler, 2021). WHO represented a good bakery as a bakery in which employees and leaders cooperate to utilize an incessant development practice to guard and stimulate the well-being, welfare and health of the whole manual workers and the bakery withstand capability (Fjell, Eriksen, Hermann, Boström&Cronfalk2021).

baking procedures are work-concentrated, dangerous working surroundings which necessitate extreme bodily and perceptual struggles, In contrary with biological and physical dangers due to numerous monotonous activities, accomplishment of the occupation in erect position for a long period of time, incorrect work stations where prevalence of bakery suffer from allergic rhinitis between 12% to 26% and between 15% to 21% have bakers asthma also between 5% and 28% of workers in bakery have a sensitivity from the wheat flour while between 2% and 16% have a sensitivity to yeast or other rising agents accordingly resounding so problematical and spread work-related dangers and security subjects., (Cao,. 2016 & Goh, 2019; Zhang et al., 2019).

Occupational hazard is a threat knowledgeable in the bakery it can include many types of threats as physical, chemical, biological, psychological, mechanical and environmental threats. Physical dangers like temperature, light, cold, sound, ionizing radiation and quivering heat and cold, stress vibration hazards the bakery hazards also include chronic obstructive pulmonary disease emphysema and bronchial asthma. Chemical hazards caused by exposure to chemicals in the workplace there are many chemicals hazards including breathing to grime, vapors, metallic, digestion to poisonous outcome and regional effect like inflammation if the skin termed as dermatitis, ulcer formation and tumor (Raju,. et al 2021& Habib,. et al 2021).

biological hazards can cause health problems in workers such as viruses, bacteria, parasites, also influenza is an example of biohazard that can affect human health. Psychological hazards include stress, violence and other workplace stressors, verbal abuse, mobbing, burnout, exposure to unhealthy elements during meetings with business,

as tobacco and uncontrolled alcohol. Mechanical hazards leading to injuries such as friction, abrasion, cutting it also include flywheels, pulleys, belts, couplings, chains, cranks, gears. Finally Environmental hazard is a state or an event which has the potential to threaten the surrounding environment including pollution, noise (Trainor, Trainor, Meeuwssen, & Bongers, 2021; Guerrini, Parenti, Angeloni, & Zanoni 2019).

Safety measures could affect workers' insurances in the direction of protection, the method workers do their job, and the technique workers cooperate with each other. All of these issues could have a straight influence on security upshots like accidents, through producing data order, practice, and management, so as to employees are not bare to hazard' show ever, both the managing and employees are accountable for the protection of the workstation (Fiałkowska, & Matuszczyk, 2021).

Guarding of bakers in their bakeries from dangers arise from issues opposing to well-being, edition of job to gentleman, and every gentleman to the work Placing and maintenance of the employees in a job-related surroundings modified to his psychological and physiological abilities. Improvement working conditions; social security. Protection of workers where their employment contract is terminated (El-Ghany, & Mahmoud, 2019).

Community well-being natural role shields illness nonappearance managing, convalescence, well-being observation, well-being valuation, screening of health, well-being upgrade, study and progress, strategy, technique and review. Work-related wellbeing harbors have the potential to affect the a community healthiness and advance the overall nation well-being throughout community well-being creativities, decreasing healthiness dissimilarities, decreasing societal segregation and disease nonexistence, by defending and endorsing the healthiness of employed populace.

significance of study

Bakeries workers face major accidents among the work place Health hazards of bakery represent 40% of injuries related to work are due to slips on wet floors or spillage of dough or other wet ingredients. Uneven and obstructed floor surfaces lead to tripping accidents also the heat associated with ovens in a bakery can be a hazard; the excessive heat can affect cardiovascular function for example, causing syncope (fainting) and other consequences. Health hazards of bakery work are a matter of global concern today.

Exposures to occupational hazards in bakeries are generally indicating poor safety standards, Careless handling and cause serious injuries and health problems. there are no study has previously been conducted in bakers at port said city, with lack of awareness and caution to ward hazards and safety measures they are exposed to various health problems, and no studies conduct in port said city in this field so the study will be to assess occupational health hazards and safety measures to workers in bakers at port said city. (Kalejaiye, 2013). and more than 270 million workplace injuries annually, the most common result of workplace hazards. Approximately 2.9 million nonfatal occupational injuries in the United States. (U.S. Bureau of Labor Statistics, 2015).

AIM OF STUDY

The present study aims to assess occupational health hazards and safety measures among Objectives To determine workers knowledge about occupational health hazards in bakers at Port Said city.

To identify practice of workers bout occupational health hazards in bakers at Port Said city.

To determine safety measure about occupational health hazards in bakers at Port Said city.

SUBJECTS AND METHOD

The methodology of the current study is discussed under the following four main designs

- I) Technical design
- II) Operational design
- III) Administrative design
- IV) Statistical design

Technical design include

The technical strategy includes research strategy, Study situation, issues and tackles of information assembly.

Research design

Across sectional research was used in this study.

Setting

The study was conducted at all bakeries affiliated to Port Said city. There are six distracts situated at Port Said city namely; EL Shark district, " 15 bakeries", Eldawahy district, "

15 bakeries", Elarab district, " 12 bakeries", el manakh district, " 11 bakeries", el ganoub district" 8, elzohor district, '19 bakeries'.

Subjects

Bakers who were employed in all bakeries located at Port Said cit.

Sample type

Cluster sampling Multi stage sampling was use in this study.

Sample size

The section extent was dogged by utilization of the subsequent calculation (Dobson AJ., 2002)

$$\text{Sample size } (n) = (z / \Delta)^2 p (100 - p)$$

Where: The incidence of uses personal protective device in Egypt with = 31.4 % (American journal of industrial medicine 2010)

$Z_{\alpha/2}$: a percentile of typical standard spreading strong-minded by assurance level = 1.96

Δ : The breadth of assurance recess = 10%

$$\text{Sample Size } (n) = (1.96/10)^2 31.4 \times (100-31.4) = 83$$

Because of the predictable non-contributing proportion (10%); the last section dimension will be 90

Sampling technique

Multi-stratified cluster sampling technique was applied thus: Stage 1: Stratified sampling technique was used to divide the sample size into the 6 districts that represented Port Said city giving a sample size of 15 respondents per sector. Stage 2: Representative sample of the bakeries in each sector was selected according Gray as quoted by (Mugenda & Mugenda, 2004) in which a sample size between 10% and 30% is a good representation of targeted population Number of bakeries = 20 x total number of bakeries in each sector / 100. Stage 3: Simple random sampling was used to select one bakery from each selected sector. Stage 4: In each bakery, systematic sampling was used to select 15 respondents through three shifts of the work.

Name of district	Number of bakery	Number of selected bakeries sector	Sample size
Elganoub	8	1	11
Eldawahy	15	3	15
Elzohor	19	4	15
Elarab	12	2	15
Elmanakh	11	2	15
Elshark	15	3	15

Inclusion criteria

Bakery age from (18-60) years

Exclusion criteria

Children and geriatric of both genders

Tools of Data Collection

Information was assembled for this study by utilization of the following three tools namely Structured Interviewing, an observational checklist and Environmental safety checklist these tools was adopted from **Hagag**, (1995) and adapted by the researcher.

Tool I -Structured interviewing it includes two parts;

Part 1- Socio-demographic characteristics of bakers: such as (age, family numbers, room numbers, level of education, marital status, income, sleep hours and physical activity) .Work data: such as (daily working hours, years of experience, work shifts, position during work, and work accidents). Data about health habits: such as (personal hygiene in and outside bakery, and smoking habits). Medical history of the bakers family (History of hypertension, heart diseases, atherosclerotic disease, diabetes, and thoracic diseases). Data about safety measures (Overall uniform, head cover, ear muff, gloves, protective apron, safety boots, and respiratory mask). Data about health services: such as (first aids provided, place of bakers examination, and time of periodic examination

Part 2- exposure to occupational hazards (Physical, chemical, mechanical, and psychological) hazards .

physical hazards include ;1-exposed to risk in the work environment,2-forms of exposure to these risks such as (noise-high temperature-vibrations –radiation –electricity and others),3-important damages caused by exposure to physical hazards.(hearing problem.headache.electric shocks.others,no damage

chemical hazards include exposed to chemical hazard, types of chemical hazards, floor dust ,gases ,note exposed, important damages caused by exposed to chemical hazards such as (chest allergies, allergic rhinitis, respiratory diseases, eye sensitivity, infections and skin disease, others, no damage

mechanical hazards include(1-exposed to mechanical hazards ,2-types of risks such as(carrying heavy objects-standing for long period-sit for long period-bending for long period-falls and slips-sudden movement-others),3-the most important damage caused by exposure to mechanical hazards such as varicose veins-back pain –fractures-neck pain-torn with ligaments-others).

psychological hazards include1- exposed to psychological hazards ,2-types of risks such as verbal insult –length of work –not appreciated by the supervisors-increased work load lack of cooperation,3-the most important harms caused by exposure to

psychological risks such as (psychological pressure and nervous tension-frequent absence-job desertification-family problems).

Scoring system: the score (2) was given to completely correct answer the score, (1) was given an incompletely correct answer, and the score (0) was given for wrong response. These tallies have transformed into a percent tally. The information of the study collection is estimated virtuous if the percentage tally was more than or equal seventy five percent while deliberated mediocre if the percentage score is below seventy five percent and more than fifty percent and bad if the percentage score is below fifty percent.

Too (II):- An observational checklist to evaluate employees usage for dissimilar individual defensive fashions like (head shelter, general uniform, spectacles for the eye, gloves, protecting pinafore, protection walking boot and breathing guise)

Scoring system: the score (2) was given of protective device equipment, score (1) not used of protective device equipment and not available of protective device equipment take score (0). This score was converted into a percentage score. It was deliberated acceptable if the total mark will be (60%) or more then it and unacceptable if below (60%).

TOOL (III):- Environment safety checklist and modified by researcher. It consist of 7parts; work environment, washing facilities, medical facilities, fire control measures, emergency exit, housekeeping and storage.

Scoring system ;Absent of environmental safety take score (0) and partial present take score (1), complete present environmental safety take score (2). This score was converted into a percentage score. It was deliberated suitable if the total mark will be (60%) or more and unacceptable if below (60%).

(II) Operational Design

The operative strategy of this study includes preparatory phase, tool content validity, pilot study, reliability and fieldwork.

Preparatory Phase

Extensive review of the current national and international related literatures, and theoretical knowledge of various aspects of the study using books, articles, internet periodicals and magazines in order to develop the data collection tools.

Validity

Tools of data collection are tested for content validity by a panel of five experts in the field of Community Health Nursing, Faculty of nursing port said university. It is conducted to test the tools for appropriateness, comprehensiveness, relevance, and clearance. Their opinions are elicited regarding the tool format, layout, and consistency. The necessary modifications are done accordingly.

Pilot Study

The pilot study was carried out with 10 % of study sample which included (9) bakers, who were selected randomly from bakeries in Port Said city. It was done to ascertain the relevance, clarity & applicability of the developed tool and to estimate the

time needed to fill the questionnaire sheet. Those bakers who shared in the pilot study were excluded from the main study sample as a result of the modifications made to the questionnaire sheet, where some of the questions were added and others were omitted and rewording. The final form of the tool was formulated and the time needed for completing them was also determined

Testing reliability

A test reliability was done to assess the consistency of the tools to measure items reliability and the answers were analyzed and computed to the results of first test .the reliability was computed .it was ($r=.79$).

Field of Work

Collection of the Information is carried out over 12 months period of time from beginning of April 2019 to April 2020. 2months out of them for obtaining the official permission ,pilot study, modification of tool next 5 months for data collection and final months for data entry and statistically. The researcher started to collect data from six district at port said city, total sample size bakeries it included 90 bakery. The researcher meeting with the every bakers separately and clarified to them the study aim. The researcher collected questionnaires from each bakery worker during the morning and midafternoon changes for 3 days |week with the mediocre one to two bakery per day. Period of time wanted for satisfying Feedback form fluctuated from twenty to thirty minutes and personal protective devise Observational checklist was carried during the researcher filling the sheet from bakery and also environmental was observed during collected data from each baker.

III) Administrative Design

Consent to perform the scholarship from the guilty authorities was gotten. Afore guiding the scholarship, authorized message is succumbed from Faculty of Nursing, Port Said University to the Food Supplies Office and owners for each bakery, Port Said city, to get their approval to do the scholarship. At the same time of the collection of data an uttered contract was obtained from each member in the scholarship subsequently appropriate and clear description of the aim of the study and its significance for them.

Ethical Consideration

All relevant ethical aspects are considered for ensuring baker's privacy and confidentiality of the collected data during the study. The purpose of the study is explained to each baker, and then an oral consent for participation in the study is obtained from each one of them. Voluntary participation and right to refuse to participate in the study and withdrawn at any time is emphasized to workers

IV) Statistical Design

The collected information were entered, coded and evaluated using Microsoft Excel software. Information were then introduced and accomplished via(SPSS) which is a term for statistical package of Social Sciences form twenty. Arithmetical importance examinations were utilized and P value of below or equivalent (0.05) was deliberated important statistically. P value of below or equivalent (0.01) was deliberated extremely momentous statistically. Statistics demonstration was chiefly grounded on standard

deviations(SD, normal data) and means for constant or quantifiable statistics. In the meantime, unqualified or qualitative were demonstrated as percentages and occurrences. Comparisons between 2 assemblies were carried out via Mann-Whitney U test or the paired sample t-test for incessant or quantifiable statistics consistent with familiarity of information. In the meantime, Fisher Exact probability or Pearson chi-square tests were utilized for categorical or quantifiable information regarding the omitted standards. Associations were evaluated by using the Spearman's rank correlation coefficient test (skewed data) or Pearson correlation coefficient test (normal data).

RESULTS

Table (1): show that 33.3% from bakers age from (20-30) years old, 85.6% from bakers male, 77.8% of bakers have basic work, an equal percentage between enough and not enough monthly income, 61.1% of bakers are married, an equal percentage between illiterate and technical secondary education, 71.1% of bakers don't sleep enough hours daily, 60% of bakers basic physical exercise daily and 91,1% of bakers practice regular effort.

Table (2): show that health habits of bakeries according to personal hygiene in the work .68.9 % wash face and hands together, 87.7% take a full bath after finished the work, 73.3 % of bakers are smoker, 100% of bakers smoking cigarette, 63.6 %of bakers smoking 10 cigarettes daily, an equal percentage between years of smoking between 2and7 (36.4%), 77.3 % of bakers smoke at work and 56.7 % of bakers stated that smoking cause disease and death.

Table (3): show studied bakers according to work data is 73.3% of bakers work in 6 hours daily, 55.6% of them working in morning shift, 91.1% standing in the work, 56.7% of bakers suffer from problem in the work, low income level 72.5 %, ,48.9 %of bakers have work problems.

Table (4): show exposure to occupational hazards: regarding physical hazard; 91.1% of bakers exposed to physical risks in the work environment 100% of them expose to noise and 95,1%exposure to high temperature,93,9% exposure to electricity and an equal percentage between exposure to vibration and radiation. And damage caused by exposure to physical hazards is 84,4%,65,6%,85,6% respectively hearing problems, headache, electric shock , Secondly, chemical hazard; 96.7% of bakers exposed to chemical risks in the work environment, 98.9% of them expose to flour dust and 95,4% of bakers have chest allergies. Damages caused by exposure to chemical hazards 96,7% and 94,4% have chest allergies ,allergic rhinist and 80%,86,7%,76,7% respectively respiratory disease ,eye sensitivity ,infection and skin disease.

Table (5): demonstrate baker's occupational hazards regarding mechanical hazard as 87.8% of bakers exposed to mechanical hazard in the work environment; 97.5% of them have the same percentage between standing for long periods, sit for long periods and bending for long periods,96,3% of them carrying heavy subject . 98.9% of them have back pain caused by exposure to mechanical hazards and 905 of them have varicose vien and fracture . Secondly, psychological risks; 95.6% of bakers exposed to psychological risks in the work environment 97.7% of them not appreciated by the supervisors and lack of cooperation. 95.6% of them suffering from psychological pressure and nervous tension due to exposure to psychological hazards.

Table (6): indicate spreading of the studied bakers regarding observational check list for the using of personal protective equipment devices 52.2% of bakers not use protective apron and equal percentage of bakers 48.9% of bakers not use overall uniform, head cover and eye goggles on the other hand 55.6% of bakers use gloves.

Table (1):Distribution of the studied bakers according to their socio-demographic characteristics (n = 90)

A- Socio-demographic characteristics of bakers	No.	%
Age (years)		
< 20	8	8.9
20 – < 30	30	33.3
30 – < 40	16	17.8
40 – < 50	24	26.7
≥ 50	12	13.3
Min. – Max.	12.0 - 58.0	
Mean ± SD.	32.30 ± 12.09	
Sex		
Male	77	85.6
Female	13	14.4
Number of rooms		
Min. – Max.	2.0 - 4.0	
Mean ± SD.	3.08 - 0.58	
Number of family members		
Min. – Max.	1.0 - 6.0	
Mean ± SD.	3.78 ± 1.73	
Crowding index in home		
< 1	30	33.3
1	4	4.4
> 1	56	62.2
Min. – Max.	0.33 - 3.0	
Mean ± SD.	1.29 ± 0.69	
Your work		
Basic	70	77.8
Additional	15	16.7
Other	5	5.6
Monthly income		
Sufficient and increases	4	4.4
Enough	43	47.8
Not enough	43	47.8
Social status		
Single	31	34.4
Married	55	61.1
Widow	4	4.5
Educational status		
Not read and write	27	30.0
Reads and writes	16	17.8
Basic education	12	13.3
Technical secondary education	27	30.0
University education	8	8.9
Number of hours of daily sleep		
Min. – Max.	4.0 - 12.0	
Mean ± SD.	5.73 ± 1.67	
number of hours of daily sleep enough for you		
Yes	26	28.9
No	64	71.1
type of physical exercise daily		
Entertaining	8	8.9
Basic (of the nature of the work)	54	60.0
Both together	28	31.1
Effort of practice regular		
Yes	82	91.1
No	8	8.9

Table(2): Dispersal of the studied bakers regarding health habits of the bakers(n=90)

Health habits of the bakers	No.	%
personal hygiene in working environment		
Wash face and hands together	62	68.9
No made any thing Other	70	77.8
personal hygiene after finished work		
Take a full bath	78	86.7
Wash face and hands together	43	47.8
Bakery Smoker		
No	24	26.7
Yes	66	73.3
type of smoking(n=66)		
Cigarette	66	100.0
Shisha or other	3	4.5
Number of cigarettes smoke daily (n= 66)		
10 cigarettes.	42	63.6
15cigarettes.	24	36.4
Years of smoking (n = 66)		
2 years.	24	36.4
3 years.	18	27.3
7 years.	24	36.3
Smoke at work		
Yes	51	77.3
No	15	22.7
health damage related to smoking		
Don't cause diseases	39	43.3
Causes of diseases (cause of death)	51	56.7

Table (3): Dispersal of the studied bakers regarding work data (n=90)

Work data	No.	%
Hours of daily working		
6hours	66	73.3
12hours	8	8.9
18hours	16	17.8
Min. – Max.	4.0 - 6.0	
Mean ± SD.	4.44 ± 0.78	
Duration of work years in the field of bakeries		
Min. – Max.	1.0 - 30.0	
Mean ± SD.	4.97 ± 5.62	
Work shifts in the bakery		
Am(1 am-6 am)	50	55.6
Pm(6 am-12 pm)	8	8.9
Night(7pm -1am)	24	26.7
More than a shift	8	8.9
Body posture at work		
Sitting †	8	8.9
Standing	82	91.1
problems at work		
No	39	43.3
Yes	51	56.7
type of problems (n=51)		
Difficulty working	20	39.2
Bad appraising of leader	19	37.3
Low income level	37	72.5
Work accident	44	48,9

Table (4): Dissemination of the studied bakers regarding experience to work-related dangers (n = 90).

Exposure to occupational hazards	No.	%
Physical hazards		
exposed to physical risks in the work environment		
No	8	8.9
Yes	82	91.1
Types of physical hazards (n = 82)*		
Noise	82	100.0
High temperature	78	95.1
Vibrations	76	92.7
Radiation	76	92.7
Electricity	77	93.9
damages caused by exposure to physical hazards		
Hearing problems	76	84.4
Headache	59	65.6
Electric shocks	77	85.6
Chemical hazards		
exposed to chemical hazards in the work environment		
No	3	3.3
Yes	87	96.7
Types of chemical hazards (n = 87)		
Flour dust	86	98.9
Gases and fumes	83	95.4
important damages caused by exposure to chemical hazards		
Chest allergies	87	96.7
Allergic rhinitis	85	94.4
Respiratory diseases (pneumonia)	72	80.0
Eye sensitivity	78	86.7
Infections and skin diseases	69	76.7

Selection not mutually exclusive*

Table(5): spreading of the studied bakers regarding experience to mechanical dangers and psychological hazards in the work environment.

Exposure to occupational hazards	No.	%
Mechanical hazards		
exposed to mechanical hazards in the work environment		
No	11	12.2
Yes	79	87.8
Types of risks (n = 79)		
Carrying heavy objects	78	96.3
Standing for long periods	79	97.5
Sit for long periods	79	97.5
Bending for long periods	79	97.5
Falls and slips	66	81.5
Sudden movements	64	79.0
the most important damages caused by exposure to mechanical hazards		
Varicose veins	81	90.0
low Back pain	89	98.9
Fractures	81	90.0
Pain in the neck	3	3.3
Torn with ligaments	81	90.0
Psychological risks		
exposed to psychological risks in the work environment		
No	4	4.4
Yes	86	95.6
Types of risks (n = 86)		
Verbal insult	83	96.5
Stress at work	25	29.1
Not appreciated by the supervisors	84	97.7
Increased workload	80	93.0
Lack of cooperation	84	97.7
harms caused by exposure to psychological risks		
Psychological pressure and nervous tension	86	95.6
Frequent absences	44	48.9
Job dissatisfaction	67	74.4
Family problems	72	80.0

Table (6): Distribution of the studied bakers according to observational check list for the using of personal protective equipment devices (n = 90)

Protective Device	Used		Not Used		Not Available	
	No.	%	No.	%	No.	%
Overall Uniform	15	16.7	44	48.9	31	34.4
Head Cover (cap)	15	16.7	44	48.9	31	34.4
Eye goggles	15	16.7	44	48.9	31	34.4
Gloves	50	55.6	12	13.3	28	31.1
Protective Apron	12	13.3	47	52.2	31	34.4
Safety boots	11	12.2	31	34.4	48	53.3
Respiratory Mask	43	47.8	28	31.1	19	21.1

DISCUSSION

In Egypt, the baking industry is an essential field of the economy and plays a vital role in employment creation and income generation, like other occupations is prone to occupational health and safety challenges as bakers are still exposed to occupational hazards as physical, chemical, biochemical or psychological hazard that affect the production and productivity, which translates into low incomes. So community health nursing have an essential role to focus on promoting, restoring bakers' health and preventing their diseases in a safe and healthy environment through provides occupational and environmental health and safety services for workers in bakeries (Bonsu, Adei & Agyemang-Duah, 2020; El-Ghany & Mahmoud, 2019).

This study aimed to assess occupational health hazards and safety measures to workers in bakeries at Port Said city. Regarding bakers' exposure to occupational hazard Physical hazards, the study result show that the majority of bakers exposed to physical risks in the work environment, more than two thirds of them suffering from hair problem and headache.

the current result is consistent with Noweir, El-Marakby, Youssef & Zaki, (2016) they reported that in Egypt, bakers' exposure to excessive climatic heat, excessive noise and vibration, and inappropriate light represent more hazards to them and lead to

headache. Also Chotai, (2012) stated that workers in bakeries who engaged in multi-stresses like, heat, noise, vibration, and illumination which together is likely to cause health impairment as hair problem and degrade performance capabilities and, consequently, reduce productivity quantitatively and qualitatively. Statistics 6252-Bakers-Service Canada, (2013) add that the occurrence of hearing problems was equally alarmingly high among worker in the bakeries and noted earlier on, irreversible hearing loss which develops gradually over time can be induced by noise. Even for young age workers who on the average have worked only five years to have started having hearing complaints tells a lot about the likely levels of noise to which they are exposed at their workplace (Aguwa Emmanuel, & Arinze-Onyia Sussan, 2014). It may be related to an urgent need for environmental control of noise while providing and educating the workers on the use of ear plugs and muffs in order to preserve their sense of hearing. Regarding to bakers suffering from electric shocks the current result indicated that the majority of study sample suffering from electric shocks this result agree with (Doaa et al., 2017) who stated that the specific physical hazards the bakers were exposed to include noise, smoke/dust, temperature (heat from the oven) and fire lead to burns and electric shocks. Also Noweir, El-Marakby, Yossif& Zaki, (2016) reported that in Egypt, bakers' exposure to excessive climatic heat, excessive noise and vibration, and inappropriate light represent more hazards to them and lead to electric shocks. In another hand Regarding noise and hearing problem my result was reported that all sample suffering from noise and three quarter of sample suffering from hearing problem my results agreement with this result of the study of Yossif, & Abd Elaal, (2012) who studied occupational hazards: prevention of health problems among bakery workers in Benha City, illustrated that the majority of workers were facing excessive heat, more than two thirds of them were facing noise. Exposure to noise, for instance, could cause hearing impairments among the participants and may result in pain in the ear (discharge), deafness and psychosocial hazards (stress, anxiety). It may be due to the bakery don't apply of protective measure.

Chemical hazard; the study result demonstrated that the majority of bakers exposed to flour dust and gases & fums and the majority of the bakery suffer from chest allergies and allergic rhinitis followed by eye sensitivity , respiratory pneumonia and skin disease . this study was agreement with Harris-Roberts& Robinson (2011)who noted that chronic obstructive pulmonary diseases like emphysema and bronchial asthma were high

among the workplace health hazards of bakery workers, the mechanism could be allergy to the contents of the flour such as rye and gliadins or it could be non - allergic as since the flour dust is a known respiratory irritant. Also (Joshua et al 2017). Avula et al. (2015) and Ahmed, Bilal & Merghani 2009, suggestive of the major health problems associated with flour dust were irritation of the eye, excessive cough, and wheezing. This implies that bakers are probably affected by chronic pulmonary diseases such as bronchial asthma in the long term. This result may be inter related to the majority of bakers expose to flour dust.it may be due to lack of knowledge and also don't use protective equipment.

As regard the majority of study exposed to gases and fumes and use fire for baking of bread and pastries. The current study consist with Yossif and Abd Elaal (2012), who indicated that 14 percent of bakers were exposed to burns in Benha City.

Mechanical hazard, the majority of bakers carrying heavy objects ,standing for long period ,sit and bending for long period. And . the majority of them suffering from low back pain, varicose veins, fractures and torn with ligaments. this result in line with the assertion by Aluko et al. (2016) (Steiner et al., 2011) that exposure to occupational hazards leads to musculoskeletal problems (such as low back pain) as a result of prolonged standing and stress-related conditions. Besides, sitting, standing, bending and lifting of heavy equipment for a longer period led to musculoskeletal disorders such as lower back pain, shoulder pain, and pain in the hand. this result may be inter related to the musculoskeletal disorders arise from manual , moving of heavy loads and poor work posture

Psychological risks; the majority of bakers exposed to verbal insult not appreciated by the supervisors ,increased workload and lack of cooperation, this lead to bakery suffering from psychological pressure and nervous tension that may be due to lack of cooperation and not appreciated by the supervisor . This study supported by Abo El-Ata (2014).who reported Lacking communication and cooperation between employees and occupational healthcare services and deficient safe practice guidelines lead to psychological pressure and nervous tension.

These psychological hazards resulted in injuries, low productivity, absenteeism and poor concentration at work. These psychosocial hazards affect workers and their families as well as their jobs since sickness is related to loss of productivity and hence

low incomes. Besides, stress reduces workers' productivity, which causes an economic loss of approximately 4–5 percent of the Gross National Product of many countries (Greenlund et al., 1995). This result may be inter related to not appreciated by supervisors

Regarding distribution of the studied bakers according to observational check list for the using of personal protective equipment devices the study result show that slightly less than three fifth of bakers were observed didn't use head cover, more than half of them were observed used gloves and more than half of bakers were observed safety boots not available The current study is in the same line with Yossif & Abd Elaal, (2011) who conducted a study in Benha University found that all of the studied workers had poor score of practice in all items of protective device; as use of apron, mask, head cap..These results disagree with Emmanuel & Sussan,(2014) they conducted a study in University of Nigeria found that most of the participants frequently used apron followed by gloves while ear plugs were least worn. Workers are required to maintain good personal hygiene. Facilities are regularly inspected to ensure that equipment and employee comply with health and sanitation regulations It may be due to bakery workers did not receive any training courses about occupational hazards, knowledge of work requirement, how to use self -protective devices, So workers should instructed in how to avoid health hazards by following recommended safe work place

nvironmental and work-related well-being and protection facilities for employees in bakeries (Bonsu, Adei & Agyemang-Duah, 2020; El-Ghany & Mahmoud,2019).

RECOMMENDATION

In the light of the conclusions of the current scholarship, the subsequent commendations are advocated:

- 1- Training platforms providing to bakers on protection and healthiness procedures which insurances the whole old-style bakeries.
- 2-Apply the work bylaw in relative to pre-employment medicinal, episodic checkup and well-being assurance.
- 3-Steady episodic screening for the whole bakers is so significant to initial distinguishing of any well-being complications and producing managing.
- 4-Further study Endures of work-related well-being platform to the whole backers to promote their information and exercise for anticipation of well-being glitches connected to work-related dangers.

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مخاطر الصحة المهنية واجراءات السلامة بين عمال المخابز بمدينة بورسعيد

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الخلاصة

خلفية: أفادت الابحاث أن العاملين في المخابز يواجهون العديد من المخاطر الصحية المهنية في موقع العمل ، مع قلة الوعي والحذر لرد المخاطر واجراءات السلامة. هدفت الدراسة إلى تقييم مخاطر الصحة المهنية واجراءات السلامة بين عمال المخابز في مدينة بورسعيد. **التصميم البحث:** تم استخدام مشروع بحث مقطعي معبر في هذا البحث. **العينة:** تم استخدام أخذ العينات متعدد المراحل في هذه الدراسة. اشتملت الدراسة على الخبازين العاملين بالمخابز التابعة لمدينة بورسعيد وعددهم 90 خبازا. **الإعداد:** أجريت الدراسة في جميع المخابز التابعة لأحياء مدينة بورسعيد وهي: حي الجنوب ، حي الضواحي ، حي العرب ، حي المناخ ، حي الشرق ، حي الزهور. **الأدوات:** تم استخدام ثلاث أدوات لجمع بيانات الدراسة وهي استبيان المقابلات المنظم ، قائمة مرجعية للمراقبة وقائمة مراجعة للسلامة البيئية وقائمة مراجعة للسلامة البيئية. **النتائج:** 77.8% من الخبازين لم يستخدموا أدوات احترازية لحماية أنفسهم في العمل ، فقط 22.2% من الخبازين يستخدمون أدوات احترازية لحماية أنفسهم ، حوالي 90 خباز يستخدمون القناع و 90% من الخبازين يستخدمون القفازات. فقط 8.9% من الخبازين يحضرون الدورات التدريبية. لوحظ أن أكثر من خبازين الربع الثالث قد توصلوا إلى استنتاج: خلصت الدراسة إلى أن أكثر من ثلثي الخبازين يعانون من الصداع والصددمات الكهربائية بسبب التعرض لمخاطر جسدية ، وأن غالبية الخبازين يعانون من حساسية في الصدر وحساسية الأنف بسبب التعرض لمخاطر كيميائية. ويعاني معظمهم من آلام الظهر نتيجة التعرض لأخطار ميكانيكية وغالبيتهم يعانون من ضغط نفسي وتوتر عصبي بسبب الضغط النفسي. توصية.

الكلمات المرشدة: مخابز. مخاطر الصحة المهنية وتدابير السلامة