

Awareness Sessions for Fishermen about Occupational Health Hazards in Port Said City

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ABSTRACT

Background: Occupational health risks are a serious public health concern, and the work of fisherman is particularly one of the most demanding, risky, and overworked professions in the world. **Aim:** Assess the effect of awareness sessions about occupational health hazards for fishermen in Port Said city. **Subjects and Method:** **Design:** A quasi-experimental research design was utilized in this study. **Subjects:** The study included a purposive sample of 115 fishermen. **Setting:** The present study was carried out at Fishermen's Syndicate fishing in Port Said city, Egypt. **Tools:** One tool composed of three parts was used to collect the data for the study, namely structured interviewing questionnaire, fishermen' knowledge about occupational health hazards, and self-reported practice of fishermen towards occupational health hazards. **Results:** All of the fishermen exposed to chemical hazards, 65.2% and 93% had back pain and neck pain respectively caused by exposure mechanical hazards. 55.7% of the fishermen complained of exposure to stress and nervous tension. **Conclusion:** In light of the improvement in fishermen's knowledge and practice regarding occupational risks and protection against them following its implementation, the study came to the conclusion that the educational awareness sessions had a good impact on fishermen's knowledge and practice. **Recommendation:** To reduce the danger of hazards and its complications, regular educational training program are offered to fisherman on how to utilize personal protection equipment (PPEs) and appropriate first aid techniques.

Key words: Awareness sessions, Fishermen, Occupational health hazards.

INTRODUCTION

Since fishing is one of the most hazardous and life-threatening professions in the world, the incidence of occupational health hazards among fishermen has significantly increased in the last ten years. In general, fishing is the activity of attempting to catch fish. Fish are frequently caught in the wild but may also be caught from stocked bodies of water. It is also one of the most significant economic activities that supports livelihood for over one billion people worldwide and serves as a significant source of food (Nguka, Shitote & Wakhungu, 2019).

One of the oldest professions in the world and maybe the most hazardous is fishing (Udolisa, Akinyemi, & Olaoye., 2013). Protection of fisherman against work-related illnesses and injuries has long been a major concern for governments, fishermen, and the general public on a global scale (Monney, Dwumfour-Asare, Owusu-Mensah, & AmankwahKuffour, 2014).

The exact number of fishing fatalities and the prevalence of occupational health issues cannot be generalized because they occur at varying rates in different clinical settings and have recently increased globally, particularly in Egypt. Around 2.78 million deaths per year, or 80 per 100,000, are thought to be attributable to workplace dangers globally. 20% to 50% of workers worldwide, particularly in underdeveloped nations, experience severe losses due to occupational hazards (Vanabavan & Abeesh, 2015).

Fatigue, modifications to the vessel and related stability difficulties, overloading of the vessel that affects stability, slips, risky work practices, weather, and environmental circumstances are some of the key contributing factors to these fatalities. International research reveals that bruises, cuts, puncture wounds, sprains and strains, fractures, and amputations are the most common non-fatal injuries sustained by fishermen. Many fishermen also experience health problems include infections, noise-induced hearing loss, sore backs caused by incorrect manual handling of goods, and slip injuries (International Labour organization, 2018).

Five basic categories of occupational health risks, including chemical, biological, physical, mechanical, and psychosocial risks, may have an impact on fishermen. Musculoskeletal injuries, particularly those to the lower back from exerting oneself too

much when moving heavy objects, are among the most frequent and dangerous risks. Exposure to workplace dangers is the primary factor in serious disabilities and health concerns, and accidents in the fishing industry also generate absenteeism from work, which has a negative impact on production (Jeewska, Grubman-Nowak, Jaremin & Leszczyska, 2017).

In contrast to biological hazards, which can be brought on by organisms like bacteria, viruses, fungi, toxins, and parasites, occupational physical hazards on fishing boats are related to physical agents (such as ultraviolet radiation, extreme weather conditions, noise, and whole-body vibrations, falls). Contrarily, psychological stresses include exhaustion, long and irregular work hours, a lack of cabin space, poor sleep quality, and poor cleanliness can cause stress and occasionally depression (World Health Organization, 2018).

Personal protection equipment (PPE) is also employed in safety measures to safeguard fisherman from biological and physical risks. PPE for maintenance work may include welding goggles for protection when welding, ear muffs for hearing protection when welding or hammering, gloves suitable for handling hot materials or chemicals, and goggles for eye protection when grinding or hammering steel (Erondu & Anyanwu, 2021).

A safe and healthy workplace encourages productivity since it cuts down on time lost from work due to accidents. Despite extensive data on the occupational health risks in the fishing industry, there is little knowledge of these dangers, particularly in poor countries and with regard to inland fisheries (Percin, Akyol, Davas & Saygi, 2019).

Therefore, it is a challenge and a responsibility for community health nurses to assist fishermen who are at risk for occupational hazards in obtaining support, advocacy, and preventive strategies that enhance their physical health status through evaluation of the workplace, worker health status, provision of health surveillance, conduct of health education, and counseling. Additionally, part of their job as researchers is to identify the predisposing factors linked to improvements or declines in fishermen's health state (Olapade, Kpundeh, Quinn & Nyuma, 2021).

Significance of the study:

There is a growing awareness of occupational health hazards, which are conditions that surround a workplace and increase the likelihood of a worker dying, becoming disabled, or becoming ill. About two million people in Egypt work in the fishing and fish processing industries, but many of these individuals have either left their jobs entirely or have migrated as a result of poor working conditions, which are linked to various types of hazards, and working hours that prevent them from receiving medical attention from facilities for these hazards. Nearly 91% of Alexandria City's fisherman who operate at El-Anfoshy and Abukir are affected by musculoskeletal problems. Injuries caused by accidents increased, according to statistics from the departments of fisheries and agricultural research in Port Said and Alexandria in the year 2020. (Kolawole & Bolobiwe, 2020). The purpose of this study is to evaluate the impact of an awareness session regarding the occupational health risks that fishermen face because there are few studies about occupational hazards in the fishing industry in Egypt.

THE AIM OF THIS STUDY IS TO

Assess the effect of awareness sessions about occupational health hazards for fishermen in Port Said city.

Research Objectives are to:

1. Identify knowledge of fishermen about occupational health hazards
2. Determine the practice level of fishermen about occupational health hazards.
3. Develop health awareness sessions for fishermen about occupational health hazards
4. Implement health awareness sessions for fishermen about occupational health hazards.
5. Evaluate the effect of awareness sessions for fishermen about occupational health hazards.

SUBJECTS AND METHOD:***Study design:***

In this study, a quasi-experimental research design was used.

I- Technical design:***Study setting:***

The study was carried out at the Egyptian port city of Port Said's Fishermen's Syndicate. In the vicinity of 5000 in Port Said city, the bottom floor of the Fishermen's Syndicate fishing building contained two rooms: the first was the director's room, and the second

was for the workers. The goal of the fishermen's syndicate fishing was to provide them with a fishing license as well as assistance with their pensions.

Study subjects:

- Following the following criteria, 115 fishermen from the previously indicated setting who were part of a purposive sample were included.
- Aged 18 to 50;
- Willing to participate of the study.

Study sample:

The sample size was determined by using the following equation:

$$\text{Sample size (n)} = [(Z\alpha/2)^2 * p (1-p)] / d^2$$

Where:

- **P:** 30% the prevalence of hazards among fishermen in Egypt (International Maritime Health, 2018).
- **d:** 3% the margin of error
- **Z $\alpha/2$:** A percentile of standard normal distribution determined by 95% confidence level = 1.96

Sample size (n) = 110 fishermen
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- Considering 3% non-response rate, the final sample size was **115 fishermen**.

Tools of data collection:

One tool composed of three parts was utilized to gather data.

Tool 1: A structured questionnaire sheet for Fishermen (pre, post sessions)

After examining pertinent material, the researcher created it in plain Arabic (Laraqui et al., 2018; Myers, Durborow, & Kane, 2018). There were three parts of it:

Part 1:

A- Socio demographic characteristics, comprising the age, education level, marital status, number of fishing licenses, and income of the fishing populationetc.

B- Medical history, including the presence of chronic conditions like diabetes mellitus, hypertension, and the medications those conditions were treated withetc.

C- Health habits and out work condition that included personal hygiene, exercise, smoking, and sleepingetc.

Moreover, it concerned with questions related to fishermen' work in fishing sector as work' years as a fisherman, periods of work' shifts, positions taken during fishing, set of adverse working conditions or problems and work-related accidents.

Part 2: Fishermen' Knowledge about Occupational Health Hazards Questionnaire:

The structured questionnaire sheet was developed by the researcher based on reviewing of the related literatures (Myers, Dubrow, & Kane, 2018). To assess knowledge of fishermen about occupational health hazards, which covered the following items:

- Physical risks as causes, risk factors for predisposition, and risks from exposure.
- Chemical dangers as causes or predisposing factors, and risks associated with exposure.
- Biological hazards as causes or predisposing factors, and risks associated with exposure.
- Mechanical hazards, their root causes or risk factors, and exposure-related risks.
- Psychological risks as causes or risk factors, as well as risks from exposure...)
- Risks associated with boats
- Accidents at the workplace for fisherman.
- Health services, care given to fishermen, their location, nature, and purpose.
- Safety precautions, preventive measures, and first aid for managing workplace dangers

Scoring system:

The following criteria are used to evaluate a fisherman's knowledge of occupational hazards: A known object receives one point (1) whereas an unknown item receives zero points. The mean, standard deviation, and percent score are calculated from these scores. If the percentage score is 60% and more, the worker's knowledge is deemed good; if it is less than 60%, it is considered poor.

Part 3: Self-Reported Practice toward Occupational Health Hazards Questionnaire:

The researcher developed it based on an analysis of the relevant literature (Laraqui & Manar, 2018), in order to assess fishermen's reported practice regarding occupational health hazards before and after implementation of the study program. It consists of (5) items with (7) sub items which were:

- ✓ Fishermen' practice during drowning situation of other fisherman.
- ✓ Fishermen practice in competitive environments with other fishermen.
- ✓ Fishermen' practice during injury situation of other fisherman.
- ✓ Fishermen' practice during burn situation of other fisherman.
- ✓ Fishermen practice as other fishermen are having trouble breathing.

Scoring system:

The following scores were used to calculate the mean, standard deviation, and percent score for fishermen's self-reported practice toward occupational hazards: "A done item" received a score of one (1), and "Not done item" received a score of zero (0). If the percent score was equal to or greater than 60%, the fishermen's reported practice was deemed to be good; if it was less than 60%, it was deemed to be poor (Myers et al., 2018).

II- Operational design:

Preparatory phase:

This entails a review of the relevant and recent literature on the research topic utilizing all official websites, including PUBMED, GOOGLE SCHOLAR, the MEDLINE database, CINAHL, the EBESCO Cochrane database, Scopus, journals and articles, and a number of other concerns. It comprises a variety of studies, periodicals, and magazines, as well as theoretical information on a variety of topics

Validity of the study tool:

The content validity of the study tool was assessed and revised by a panel of five experts in the field of Community Health Nursing, Port Said University for its clarity, content, sequence of items and relevance or irrelevance of content. It is conducted to test the tool for appropriateness, comprehensiveness, relevance, and clearance. Their opinions are elicited regarding the tool format; layout, and consistency, content validity was established through a .95 % agreement among experts in the field. The necessary modifications are done accordingly.

Reliability of the study tool:

The internal consistency of the developed tool was tested by using Cronbach's alpha coefficient test by a statistician to assess reliability of the tool. Three parts of the tool including; structured interviewing questionnaire, fishermen' knowledge about occupational health hazards, and self-reported practice of fishermen towards occupational health hazards proved to be reliable as $r = 0.85, 0.85, \text{ and } 0.89$ respectively. The phase of ascertaining reliability of the study tool was conducted within one month.

Pilot study:

A pilot study was conducted to show the tool's viability and applicability on 15 fishermen, 10% of the overall study population. Because there were no substantial

changes that needed to be made to the study tool, the subjects of the pilot study were included in the study's overall sample and were completed over the course of one month from the beginning to the end of February.

Field work:

- The study was carried out between the beginning of January and the end of October 2022. Two of those months were used to obtain official permission. After that, data collection for the pilot study and tool modification began, and it continued for three months from the beginning of Mars to May 2022. The final five months were spent entering the data and performing statistical analysis.
- Before starting work, the researcher introduced herself to the fishers and gave them a brief rundown of the study's objectives and methodology.
- The study instruments' content validity was examined and corrected by a group of five community health nurses and nursing faculty staff members from Port Said University for their clarity, content, sequence of items, and relevance or irrelevance of content.
- A statistician performed the Cronbach's alpha coefficient test to evaluate the reliability and internal consistency of the tools created for the complete questionnaire. Excellent scale reliability was demonstrated by the tools 1 and 2, which each had reliability values of $r = 0.85$ and 0.89 , respectively.
- Prior to implementing the awareness and education program, each fisherman underwent a personal interview to obtain information about their health history, work-related activities in the fishing industry, and habits regarding their physical and mental well-being using the study tool(I) part (1)
- Evaluation of fishermen's understanding of workplace health risks using the research tool(I) part (2)
- The study tool(I) PART (3) component was used to assess how occupational health hazards were controlled and managed in the workplace of fisherman (3)
- Considering that fisherman have short attention spans, each didactic session lasted 60 minutes.
- Each practical session lasted 60 minutes, with care for the attention span of fisherman, to address its topics.

- Using a tool (I, part 3), the researcher examines fishermen's practices throughout the morning and afternoon shifts before and after the educational program's implementation.
- Each session began at 10 am for the morning shift and at 2.30 pm for the afternoon shift.
- Eight groups of twelve to fifteen fishermen each were formed from the researched fishermen. The researcher employed questions, discussion, and various teaching techniques during the interview, including brainstorming sessions, group discussions, demonstrations, and repeated demonstrations. There were many instructional tools employed, including power point and handout guidelines.
- Following the evaluation phase (during the first session), each fisherman received a guiding colored booklet about work dangers and safety preventive measures in order to grab her attention, keep her engaged, and aid her in reviewing its material as needed.
- The researcher kept every interview brief, basic, and easy to understand. At the end of each session, the researcher gave a brief summary.

III- Administrative design

Ethical considerations:

The researcher followed ethical research principles as the following:

The Scientific Research Ethics Committee of the Faculty of Nursing at Port Said University gave its approval to the study protocol. Before the study started, verbal consent was gained from the fishermen under study after a thorough explanation of its goals and methodology. Through randomization, every fisherman had an equal chance of participating in the study. Through a code number attached to each questionnaire given to the fishermen subjects, absolute confidentiality of the data collected, and anonymity were maintained throughout all study phases. While the fishermen in the study provided their consent voluntarily, it was confirmed that they were aware of their right to withdraw from the study at any time and under no obligation, and that the data collection and program implementation processes did not interfere with the fishermen's ability to do their jobs.

RESULTS:

Table (1): The study's findings show that 44.3% of fisherman in the age group from 30 to less than 40 years, and 41.7% of them had families with two people. About 73.0% of them were married, and 43.5% had technical training and a license. 67% were

dissatisfied with their income. 56.5% of people reported sleeping for 7 hours every night. Furthermore, 68.7% of them engaged in basic physical activity, with 67% of them practiced walking and running exercises.

Table (2): It was clear that the entire studied fisherman was exposed to partial or total hearing loss produced by physical hazards exposure. Additionally, 97.4% and 96.5% of the fishermen indicated that they suffered from high blood pressure, and inability to focus and headache respectively, caused by exposure to physical hazards.

Table (3): The current findings demonstrated that all of the fishermen who agreed to participate in the study were exposed to chemical hazards and that 100% of them were aware that gases, vapors, mineral oils, and energy gases were responsible for these dangers.

Table (4): According to this table, most of the studied fishermen were exposed to biological hazards, with 99.1%, 97.4%, and 93.9% of them indicating that viruses, parasites, and bacterial illnesses respectively were the most frequent types of biological hazards.

Table (5); from this table, it can be shown that all of the participating fisherman had an awareness that sprains, fractures, and torn ligaments were each regarded common risks or of the mechanical hazards to which they were exposed. Additionally, 65.2% and 93% had back pain and neck pain respectively caused by exposure mechanical hazards.

Table (6): Pertaining to fishermen's knowledge about damage or complications caused by exposure of psychological hazard, this table revealed that 94.8% and 93.0% of the fishermen acknowledged that family issues and frequent absence respectively were thought to be prevalent difficulties of psychological hazards to which they were exposed. In addition, 55.7% reported experiencing stress and tension.

Table (7): Indicated the total knowledge scores regarding occupational health hazards pre, and post program among the studied fishermen. It was showed that, the majority of them had poor knowledge pre-program implementation while, their knowledge was improved post program to be a good knowledge with a highly statistical significant differences in relation to physical, chemical, mechanical, and psychological hazards at $P < 0.001$.

Table (8): Illustrated distribution of the studied fishermen according to their total practice toward occupational hazards prevention pre, and post program. As evident in the table, it was revealed that, the vast majority of them had poor practice pre-program

implementation while, their practice was improved extensively post the program with a highly statistical significant differences in relation to preventive measures, emergency plan, health services, and accidents prevention at $P < 0.001$.

Table (1): Frequency distribution of the studied sample according to socio-demographic characteristics (N=115)

Socio-demographic characteristics	No.	%
Age		
20-	26	22.6
30-	51	44.3
40:50	38	33.1
Marital status		
Single	17	14.8
Married	84	73
Divorced	11	9.6
Widow	3	2.6
Family number		
One	8	7.0
Two	48	41.7
Three	14	12.2
Four	12	10.4
More than four	33	28.7
Qualifications		
Illiterate	6	5.2
Read and Write	29	25.2
Basic	24	20.9
General high level	3	2.6
Technical education	50	43.5
Bachelor	3	2.6
License		
Yes	61	53
Income		
Satisfactory	38	33
Unsatisfactory	77	67
Sleep hours per day		
Less than 6	8	7
6 hour	42	36.5
7 hour	65	56.5
Physical activity		
Basic	79	68.7
Entertainment	4	3.5
Both	32	27.8
Type of physical activity		
Walking and running	77	67
Football	26	22.5
Swimming	4	3.5
Tennis	8	6.0

Table (2): Frequency distribution of studied sample according to Damage caused by exposure of physical hazards (N=115)

Items	(N=115)			
	Yes		No	
	No	%	No	%
Joint sprain	109	94.8	6	5.2
Nervous stress	103	89.6	12	10.4
Inability to focus and headache	111	96.5	4	3.5
High blood pressure	112	97.4	3	2.6
Tension and agitation	109	94.8	6	5.2
Partial or total hearing loss	115	100.0	00	00
Physical stress	104	90.4	11	9.6

Good is above 60 % from total score

Table (3): Frequency distribution of studied sample according to exposure chemical hazards (N=115)

Items	(N=115)	
	Yes	
	No	%
Gases and vapors	115	100.0
Mineral oils	115	100.0
Energy gases are generated very quickly	115	100.0

Table (4): Frequency distribution of studied sample according to exposure to biological hazards (N=115)

Items	(N=115)			
	Yes		No	
	No	%	No	%
Bacterial infections	108	93.9	7	6.1
Viruses	114	99.1	1	.9
Parasites	112	97.4	3	2.6
Contaminated food	107	93.0	8	7.0
Infection from disease	112	97.4	3	2.6

Table (5): Frequency distribution of studied sample according to Damage caused by exposure mechanical hazards (N=115)

Hazards	(N=115)			
	Yes		No	
	No	%	No	%
Varicose veins	101	87.8	14	12.2
Back pain	75	65.2	40	34.8
Sprains	115	100.0	00	00
Fractions	115	100.0	00	00
Neck pain	107	93.0	8	7.0
Torn ligaments	115	100.0	00	00

Table (6): Frequency distribution of studied sample according to Damage caused by exposure psychological hazards (n=115)

Hazards	Preprogram (N=115)			
	Yes		No	
	No	%	No	%
Psychological stress and nervous tension	64	55.7	51	44.3
Repeated absence	107	93.0	8	7.0
Job dissatisfaction	94	81.7	21	18.3
Family issues	109	94.8	6	5.2

Table (7): Distribution of the studied sample according to total knowledge about occupational health hazards pre, and post program (N=115)

Hazards	post program				pre program				Test of Significance	
	Good ≥ 60		Poor <60		Poor <60		Good ≥ 60		t Test	P
	No	%	No	%	No	%	No	%		
Physical hazards	112	97.4	3	2.6	106	92.2	9	7.8	-9.806	<.001*
Chemical hazards	115	100.0	0	0	90	78.3	25	21.7	-4.697	<.001*
Biological hazards	113	98.3	2	1.7	109	94.8	6	5.2	-13.360	.001
Mechanical hazards	115	100.0	0	0	111	96.5	4	3.5	-14.913	<.001*
Psychological hazards	115	100.0	0	0	95	82.6	20	17.4	-9.726	<.001*
Vehicles hazards	113	98.3	2	1.7	103	89.6	12	10.4	-1.738	.085

* Highly statistical significant difference at $P<0.001$

Table (8): Distribution of the studied sample according to total practice toward occupational health hazards pre, and post program (N=115)

Practice	Pre program				Post program				Test of Significance	
	Poor <60		Good ≥ 60		Poor <60		Good ≥ 60		t Test	P
	No	%	No	%	No	%	No	%		
Preventive measures	110	95.7	5	4.3	7	6.1	108	93.9	-7.697	<.001*
Early preventive measures	115	100.0	0	0	15	13.0	100	86.9	-11.212	<.001*
Emergency plan	115	100.0	0	0	15	13	100	86.9	-9.581	<.001*
Health services	115	100.0	0	0	17	14.8	98	85.2	-7.780	<.001*
Accidents	115	100.0	0	0	8	7	107	93.0	-20.510	<.001*

* *Highly statistically significant difference at P<0.001*

DISCUSSION:

Fishing has always been and remains a dangerous profession; it rates highly in all analyses of occupational dangers, including risk-taking, injuries, and fatalities. As a result, safety at sea is a critical concern for the commercial fishing sector and fishermen (Hossain et al., 2019). Because of this, the study sought to ascertain the knowledge and behaviors of fishermen regarding occupational health risks.

Fishermen' knowledge regarding damage caused by exposure of physical hazard, the present study portrayed that, all of the tested fishermen had partial or complete hearing loss as a harm brought on by physical hazard exposure. According to Huchim-Lara, Salas, Fraga, Mendez and Chin's (2020) study, "Fishermen's perceptions, and attitudes toward risk diving, and management issues in small-scale fisheries in New Zealand," many fishermen were significantly more likely to experience auditory complaints. These findings corroborated their findings. This current outcome might be the effect of spending extended amounts of time close to machinery and vessel motor. Additionally, working on tiny boats might result in an elevated sound pressure level that is bad for hearing.

The current study findings demonstrated that, the vast majority of the studied fishermen suffered from headache as damage of exposure to physical hazard. This result was contradicted with Olaoye, Odebiyi and Abimbola, (2019), who studied in Nigeria "Occupational hazards and injuries associated with fish processing " and reported that the

minority (3.7%) of studied sample mentioned having headache. These results may be explained by the fact that repeated exposures of fisherman to physical stress, insufficient sleep, increased wakefulness, and hyper vigilance can cause headaches and trigger them.

It was indicated that, all of fishermen who accepted to participate in this study exposed to chemical hazards and all of them knew that gases, vapors, mineral oils and energy gases causes chemical hazards This present study was coordinated with Olapade , Kpundeh, Quinn ,and Nyuma, (2021) who conducted a study about" Occupational hazards, risk and injuries of fish processors in Tombo a coastal fish landing site, Sierra Leone, West Africa" and found that the largest proportion of fishermen handled chemical products of petrol, diesel, liquefied petroleum gas, paint and thinners, hydraulic, engine and gearbox oils went. This present finding may be due to incorrectly using, storing, or disposing of chemicals that can have an adverse effect on the environment and become hazardous to a person's health, also fumes during welding or dust during sanding or grinding may affect fishers' health.

This study showed that most of the studied fishermen exposed to biological hazards, in which the vast majority of them illustrated that viruses, parasites and bacterial infections represented common types of biological hazards that they were exposed to it respectively. This result was consistent with a study by Hayman, Anderson, and Lamm (2018), "Occupational health and safety in the New Zealand fishing industry: preliminary finding of the key issues," which found that the majority of the fisher folk in the study were exposed to biological hazards and were at risk for contracting all types of infections. According to the researcher, this study's findings could be explained by the fact that handling dead fish or slime on living fish, as well as cuts or wounds from handling fish bones, scales, or hooks, can expose fishing employees to biological agents, tetanus, viruses, and cuts. In addition, carelessness and improper management of safety gear can increase the infection.

It was noted from this study that all of the participated fishermen recognized that sprains, fractions, and torn ligaments respectively were common risks or complications of mechanical hazards in which they were exposed to it. As well as the vast majority of them complained of exposure to back pain and neck pain respectively. This finding was in harmony with Tadesse, Bezabih, Destaw, and Assefa, (2020), who conducted a study about " Awareness of occupational hazards and associated factors among welders in Lideta Sub-City, Addis Ababa, Ethiopia" and found that the higher frequencies of

fishermen experienced muscle skeletal problems especially neck ,lower back pain and torn ligaments as a common complications of mechanical hazards. The researcher illustrated that the current finding might be due to overexertion when moving and carrying large goods, exposure to falling and sliding, and extended work hours in the water, particularly on tiny boats, as well as volatility on the same boat.

It was revealed from this current study that, more than half of the studied fishermen complained of exposure to stress and nervous tension preprogram implementation The current findings are consistent with Dotter's (2018) research, about "Fishing on Board a Maine Trawler in the Storm-Torn North Atlantic," which shown that the majority of fishing workers experience significant levels of stress that have a negative impact on their mental health.. These findings might be due to a pressure from within the workplace or outside it, from family relationships, money, and income problems.

Concerning total knowledge scores regarding occupational health hazards pre, and post program among the studied fishermen. It was showed that, the majority of them had poor knowledge preprogram implementation while, their knowledge was improved post the program to be a good knowledge with a highly statistical significant differences in relation to physical, chemical, mechanical, and psychological hazards. The aforementioned findings were in line with those of Novalbos, Nogueroles, Soriguer, and Piniella (2019), who examined "Occupational health in the Andalusian fishing industry" and noted that the vast majority of fishermen lacked adequate knowledge prior to applying to educational programs. These results may be attributable to a dearth of educational opportunities, entrenched cultural norms, and personal experiences that may have prevented individuals from developing their knowledge and understanding of ideal performance.

Regarding total practice of the studied fishermen toward occupational hazards prevention pre, and post program, it was revealed that, the vast majority of them had poor practice pre-program implementation while, their practice was improved extensively post the program to be a good practice with a highly statistical significant differences in relation to preventive measures, emergency plan, health services and accidents prevention. Similar findings were found by Velvizhi and Gopalakrishnan (2018), who investigated "Occupational health hazards among Irular tribal fisherwomen fishing in Pichavaram Mangrove Water." They found that before the program's implementation, a high percentage of fishermen had unsatisfactory practices regarding protection against

occupational risks and use of protective equipment, but that percentage increased to be competently satisfactory. Poor information may be a contributing reason to the current findings, which have a negative impact on practice prior to program implementation.

CONCLUSION:

In light of the improvement in fishermen's knowledge and practice regarding occupational risks and protection against them following its implementation, the study came to the conclusion that the educational awareness sessions had a good impact on fishermen's knowledge and practice.

RECOMMENDATIONS:

- 1- Reduce the danger of hazards and its complications through offering regular educational training program to fisherman on how to utilize personal protection equipment (PPEs) and appropriate first aid techniques.
- 2- Educating or training all fishermen in the assessment of fishing health issues to identify risk factors that contribute to the emergence of complications and to be aware of how to initiate and maintain the appropriate management measure.
- 3- Regular education regarding the impact of unlicensed fishing on fishermen's habits and avoidance of health issues caused by workplace hazards.

For further study:

- A replication of the study with a sizeable random sample selected from a broad geographic area, allowing for a more general application of the results and allowing comparisons between Egypt and other countries.

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جلسات توعوية عن المخاطر الصحية للصيادين في مدينة بورسعيد
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الخلاصة

المقدمة: تظل صناعة الصيد واحدة من أكثر الصناعات خطورة في العالم التي يواجه فيها الصيادون مشاكل صحية مشتركة مختلفة في مكان عملهم، مع عدم الوعي والحذر تجاه المخاطر وتدابير السلامة. **الهدف:** تقييم أثر الجلسات التوعوية حول مخاطر الصحة المهنية للصيادين في مدينة بورسعيد. **طرق وأدوات البحث:** **منهج البحث:** تم استخدام المنهج شبه التجريبي في هذه الدراسة. **عينة البحث:** شملت الدراسة عينة هادفة من ١١٥ صياد. **مكان البحث:** أجريت هذه الدراسة في نقابة الصيادين في مدينة بورسعيد، مصر. **الأدوات:** تم استخدام أداة واحدة تكونت من ثلاثة أجزاء لجمع البيانات الخاصة بالدراسة، وهي استبيان المقابلة الشخصية، تقييم معلومات الصيادين عن المخاطر الصحية المهنية، وممارسات الصيادين تجاه المخاطر الصحية المهنية. **النتائج:** أوضحت الدراسة أن ١٠٠٪ من الصيادين معرضين للمخاطر الكيميائية، ٦٥.٢٪ و ٩٣٪ يعانون من آلام الظهر وآلام الرقبة علي التوالي نتيجة للتعرض للمخاطر الميكانيكية، و ٥٥.٧٪ يتعرضوا للضغط والتوتر العصبي. **الخلاصة:** خلصت الدراسة إلى أنه كان للجلسات التوعوية تأثير إيجابي على معلومات الصيادين وممارستهم والتي تمثلت في تحسين معرفتهم وممارستهم فيما يتعلق بالمخاطر المهنية والحماية ضدها بعد تنفيذها. **التوصيات:** توفير برامج تدريب تعليمية مستمرة للصيادين على استخدام معدات الحماية الشخصية وإجراءات الإسعافات الأولية المناسبة لتقليل أضرار المخاطر المهنية ومضاعفاتها.

الكلمات المرشدة: الجلسات التوعوية، الصيادين، مخاطر الصحة المهنية.