

Health and Occupational Safety in the Government Health Sector in Ma'an Governorate for the Year 2019

Dr. Bassam Saad. H. ALEmami

Jordanian Ministry of Health

Email: alemami@yahoo.com

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v10-i3/11635>

DOI:10.6007/IJARPED/v10-i3/11635

Published Online: 24 October 2021

Abstract

The study aimed to identify the extent of the commitment of the public directorates and centers of health affairs in Ma'an Governorate, and their role in applying and providing rules and regulations for health and occupational safety, from the administrators' viewpoint and their relationship to some demographic variables for the year 2019.

The importance of the study stems from Assess the awareness of administrators in public directorates and health centers about the importance of applying safety and occupational health systems, and Assess the existence of a safe and appropriate environment for workers in the public health directorates

The study population consisted of all administrators in the government health sector of Ma'an governorate for the year 2019, with a total of 60 individuals. The researcher used the descriptive-analytical method that depends on studying the real existed phenomenon, then described accurately and states it qualitatively or quantitatively.

The study questionnaire tool, Consisted of 40 statements, including health and occupational safety regulations, and the answer for each paragraph was graded according to five-point Likert scale. The data were analyzed using the statistical product and service solutions (SPSS) and IBM software implementing the following statistical methods: iterations, arithmetic mean and standard deviation to describe study variables. In addition, different analysis tests such as the (One way ANOVA) were used in case of significant differences between the averages of more than two groups and related to the dependent variable. Finally, the (Alpha-Cronbach coefficient) was used to estimate thereliability of the study.

The study showed the moderate application of the regulations for health and occupational safety in the government health sector as the most significant result. From another corner, there is no effect for the application of the regulations for health and occupational safety according to years of experience, educational level, job title, and gender. Research recommendations to senior managers and policy makers include: follow-up, evaluation and analyzing the work environment; monitoring the safety and occupational health application procedures and efficient and effective measurement, and Carrying out more studies and research related to the impact of applying occupational safety and health procedures to the performance and production of workers.

Keywords: Occupational Safety, Occupational Health, Ma'an Governorate 2019, Health Sector

Introduction

The contemporary challenges facing institutions and organizations with different classifications and goals necessitate their workers to learn and gain knowledge, increase the balance of experiences and develop skills, so that they can occupy a prominent position, and to move forward with cadres capable of achieving sufficiency in any field that they can achieve (Abu Hashish and Zaki, 2011).

Therefore, human resources management (HRM) entities in institutions are making great efforts to find the workforce necessary to perform the tasks and plans optimally, as it is looking for the best available human elements with efficiency and distinct ability (El-Dirani et al., 2020). In fact, the human resource is one of the most important resources as well as the most effective performance factor of the institution or organization (Salama, 2009). The aforementioned, could be completed via several factors including more concern in safety and providing suitable workplaces to support the fact that tasks performance meet the environmental and appropriate physical conditions.

In a study by Al-Zalbani et al (2015), the results indicated a wide gap in the global systems of occupational health and safety. In agreement with (Khalil (2008); Nasima (2018) who contend that there is a lack of interest in public safety programs, laws and penalties binding on workers by senior management, although all means of occupational health and safety are available in site. Also, Mohammed (2016) confirmed that the senior management does not pay attention to public health and safety requirements at the workplace

Despite the fact that the organization provides all means of occupational health and safety. Therefore, institutions with various sizes and goals seek to preserve their public resources, by setting up occupational safety programs to reduce work accidents and protect workers from the risks caused from work hazards faced in their workplaces (Al-Mudayfer, 2006).

Zaid and Zahran (2019) showed that increasing the level of awareness and training of workers about occupational health and safety is significant to activate the regulations on the health organizations. Furthermore, Abu Nawas (2018) recommended in his study to increase training courses and establishing a specialized department in safety and occupational health. Moreover, Adel's (2015) study confirmed positive results of public health and safety programs that have been applied within the facility. Such success is based on the pertinent support in the implementation of these programs and their impact on the production workers, performance.

Consequently, Al-Aqaylah (2003); Saray (2016) emphasized the assurance of the importance of the human and physical elements of the institution and the recognition of all possible safety risks. According to the authors, work accidents are considered as the most alien problems facing all institutions, due to its damage to many physical inventories, Accordingly, whenever the probability of risk is increased, the higher the work-related accidents resulting from the workers' lack of qualification and awareness of occupational health and safety instructions.

Capitalizing on the aforementioned facts and to enable any organization to work and achieve its interests, goals and continuity, it is necessary to activate health and occupational safety procedures, create suitable work environments free of any risks, and educate employees about the safety and occupational health rules to minimize any risks. Then, as Abu Khdeir (2007) asserts, achieving a high degree of safety and occupational health will decrease human

and material losses, help in cost reduction and increase productivity and workers' efficiency confirmed by Abdul-Muttalib (2018), the fewer the injuries inside the facility, the higher the workers productivity. But as workers in the health institutions are subject to high risk, then the senior management must provide all theoretical and practical knowledge to employees as well as make available safety and occupational health procedures and rules. Moreover, workers' cooperation in the health institution is important and necessary to preserve good work conditions as, asserted by Dejoy and Wilson (2003) stressing the fact that commitment of senior management in determining safety and occupational health procedures leads workers' interest in applying these at all sites.

Therefore, preserving workers' lives within the institution, providing a healthy and safe work environment, and keeping all different physical inventories in the institution safe are activities resultant from applying occupational health and safety regulations at the workplace.

The Study Problem

Workers' productivity and performance are important aspects in the field of production and operations and is of great importance to the founders of organizations and institutions (Al-Habeel and Ayyash, 2012). Consequently, this research aims at answering the following questions:

Q1: Is there an application of safety and occupational health procedures in the public directorates and health centers of Ma'an governorate for the year 2019?

Q2: Is there an impact of demographic factors (gender, years of experience, educational level and job title) on the application of safety and occupational health measures in the public directorates of health affairs and health centers of Ma'an governorate for the year 2019?

The Study Objectives

1. To determine the public administration commitment and its role in the application and providing of safety and occupational health regulations that are used in the directorates and health centers of the Directorate of Health Affairs of the Ma'an governorate for the year 2019.
2. Improve and develop the knowledge, skills and performance of health employees in the field of safety and occupational health.

Scope of the Study

1. Assess the awareness of administrators in public directorates and health centers about the importance of applying safety and occupational health systems
2. Assess the existence of a safe and appropriate environment for workers in the public health directorates.
3. Asserting that the outcomes of the current research are adopted by the directorate of occupational health and safety at the Jordanian Ministry of Health, as well as the directorates and health centers in the governorate. Stressing the importance of avoiding weaknesses and supporting strengths, which leads to the reduction of accidents and work injuries, thus improving the level, performance and production of workers in different institutes.

The Study Hypotheses

1. There is no application of safety and occupational health procedures in the public directorates of affairs.

2. There is no impact of demographic factors (gender, years of experience, educational level and job title) on the application of safety and occupational health in different health centers in Ma'an governorate for the year 2019.

The Study Limitations

- 1- Spatial limitations: the study was limited to the public directorates of health affairs and its comprehensive and initial centers in Ma'an governorate for the year (2019).
- 2- Qualitative limitations: The study was applied to all administrators in the public directorates of health affairs and its comprehensive and primary centers affiliated in Ma'an governorate.
- 3- Temporal limitations: The study was applied in April 2019.

The Study Terminology

- Safety and Occupational Health: all administrative activities and procedures for protecting workers from the risks arising from the work they carry out in their different workplaces, which may lead to disease and accidents (Fethiye, 2015).
- The governmental health sector in Ma'an governorate: All health directorates, comprehensive and primary health centers associated with the health sector in Ma'an governorate for the year 2019, which include both the Ma'an health directorates, and Petra Regional Health Directorate and its comprehensive and primary health centers (Abas, 2003).

Research Methodology

The study used descriptive analytical approach, which depends on the study of reality, that is, the phenomenon as it exists in reality. The study provides an accurate description and expresses it qualitatively and quantitatively (Adas, 1999).

The Study Population

The study population consisted of all administrators in the public directorates and health centers in Ma'an governorate for the year 2019. Actually, a total of 60 individuals.

The Study Sample

The total sample was 60 administrators, including two managers, three assistants, twenty three department heads, twenty eight center heads and four unit heads. of them are employees in public directorates, comprehensive and primary health centers.

Data Collection

The researcher used both primary and secondary data. Primary data were extracted from the study questionnaire. While, secondary data were collected from books, periodicals, scientific journals, previous studies and internet sites to enable the researcher to build the theoretical framework and achieve theoretical goals.

Questionnaire Validity and Creditability

The questionnaire design process was based on the reality and nature of the subject at hand. Nevertheless, the following steps were followed:

The questionnaire was congruent to the study theoretical foundation, therefore, its objectives and framework were created based on appropriate scientific and linguistic bases.

Validity was assured based on the approval by a group of experienced and specialized arbitrators and instructors from several Jordanian universities, where the total number of arbitrators was six. Consequently, modifications were implemented by retaining, deleting, adding, and/or modifying concepts and clauses to fit the research's objective and framework. This process was repeated based on majority agreement of arbitrators. The final form of the research instrument included forty items instead of fifty-two.

Questionnaire Reliability

The reliability of the tool was confirmed by having ten administrators who are not part of the sample answer the questionnaire before its full administration to the target sample. Cronbach's Alpha was estimated to measure internal reliability and internal consistency as advised by Malhotra (2004). The resultant Cronbach's alpha value was 0.955. This value falls in the range 0.80 to 1.00 labeled "Excellent" (Hejase&Hejase, (2013); Burns & Burns,(2008), and according to Chehimi et al. (2019), indicates a very good strength of association and proves that the selection of the questions is suitable for the questionnaire purpose.

Study Tool Application

When completing the final form preparation of the research tool, and obtaining an approval letter from the director of the human resources development directorate at the Ministry of Health, it is transferred to the scientific research ethics committee in the Ministry of Health; to get the agreement to conduct research in the health sector in Ma'an Governorate.

The total number of questionnaires were sixty and distributed to all of the study community, but there were six of them invalid for statistical analysis. Therefore, the response rate was 90% (54 out of 60). The distribution and collection of questionnaires took a period of one month, and was administered by the researcher.

Statistical Analysis

Having completed the collection and revision of the questionnaires, statistical specialists were consulted to determine the appropriate statistical methods, Based on their guidance, the Statistical Product and Service Solutions (SPSS) program, and an IBM product since 2009 (Hejase & Hejase, 2013) was selected to analyze the data statistically as following:

1. Descriptive statistics: frequencies, mean, and standard deviation to describe study variables.
2. Difference analysis tests such as one way ANOVA.
3. Independence test T-test.

Results and Findings

Demographics

Gender

Respondents are 77.8% (42 out of 54) males and 22.2% (12/54) females.

Experience:

Table 1 shows 48.1% of the respondents have high level of experience, that is, more than 10 years. While 27.8% had between 5 years and 10 years experience, and 24.1% have less than five years, This indicates that the majority of the sample surveyed have more than 10 years ,of experience which supports their choice to provide input about the subject of this research.

Table 1:

Distribution of the study sample according to years of experience

Experience	Frequency	Percent
less than 5 years	13	24.1
from 5 to 10years	15	27.8
more than 10 years	26	48.1
Total	54	100.0

Education

3.70% (2/54) of the respondents hold an MA degree, 85.2% (46/54) hold a bachelor degree, 1.8% (1/54) hold a doctorate, and 9.3% (5/54) hold a diploma.(are high school graduates).

Job title:

Table 2 shows that 40.7% of the respondents are department heads, 42.6% are heads of health centers in the public directorates of Ma'an governorate, 5.6% assistant directors of multi position and heads of health units is 7.4%,

Table 2:

Distribution of the study sample according to the job title

Description	Frequency	Percent
Assistant Director	3	5.6
Head of the Department	22	40.7
Head of Health Center	23	42.6
Head Unit	4	7.4
Total	54	100.0

The Study Results

Arithmetic averages and standard deviations for all the statements of the questionnaire are listed in Table 3. Furthermore, knowing that a 5-level Likert scale is used to measure the respondents' agreement, the minimum load for each statement is one (1) while the maximum is five (5). Or in another word the number 1 represents (never) and the arithmetic mean is from (1-1.8) with no any answer, number 2 represents (rare) and the arithmetic mean is from (1.81-2.6) where the answer is weak, number 3 represents (sometimes) and the arithmetic mean is from (2.61-3.40) where the answer is medium, number 4 (mostly) where arithmetic mean is from (3.41-4.2) and the answer is high and finally number 5 represents (always) and the arithmetic mean is from (4.21-5) where the answer is very high.

Table 3:

Arithmetic averages and standard deviations

Statements	Mean	Std. Dev.
There are programs to train all employees, without exception, on the basics of occupational health and safety used in their work continuously.	2.6296	1.08673
There is an appropriate occupational health and safety policy documented, clear and known to all employees of the public directorate and health centers.	2.6296	0.91726
The public directorate is keen on developing and improving the work environment in line with relevant technical developments besides occupational health and safety.	3.1296	0.99140
There is a department / unit / division specialized in occupational safety and health that performs the initial and periodic inspection of workplaces in the public directorate and its health centers.	2.4444	1.04008
She feels that the public directorate and the related health centers are not interested in health and safety besides their work environment.	3.0370	1.19690
In the public directorate and health centers, there are informative and educational boards concerned with occupational health and safety to spread awareness among employees.	3.4630	1.12791
The public directorate encourages employees in their workplaces to adhere to correct and safe work behaviors within the work environment	3.5000	0.94669
Work accidents and injuries are investigated within the public directorate and health centers if they occur.	3.5556	0.81650
There is cooperation among employees in the Work accidents and injuries are investigated within the public directorate and health centers if they occur and health centers to achieve the application of OSH rules and procedures.	3.1296	0.99140
Within the Work accidents and injuries are investigated within the public directorate and health centers if they occur, and health centers, there are laws and regulations concerned with occupational safety and health procedures	3.0741	1.04343
An effective occupational health and safety system is in place within the public directorate and health centers.	2.6481	0.99351
Within the public directorate there are accessible first aid boxes to aid employees in the event of injury.	2.9630	1.30258
The necessary precautions are taken in the public directorate and health centers to prevent all possible occupational hazards in the work environment.	2.8889	1.09315
The public directorate and health centers are concerned with conducting all standard and environmental checks that are concerned with the work environment (such as lighting, heat, humidity, ventilation ... etc).	2.5185	1.22460
In the public directorate and health centers, periodic reviews are made of all aspects and steps of occupational health and safety.	2.4815	0.98557
The public directorate and the health centers have plans, plans and goals and assessments for occupational health and safety in order to improve the environment and health of employees.	2.5741	1.00192

The public directorate and the health centers have written procedures, processes and protocols governing dealing with major occupational health problems as they occur.	2.6296	1.03334
The risk is evaluated in the public directorate and health centers to identify, deal with, document, record and communicate about occupational hazards and occupational hazards.	2.5000	0.86330
Technical and financial capabilities are provided to implement occupational safety and health procedures in the public directorate and its health centers.	2.4259	0.94374
The public directorate and Health Centers provide personal health and safety equipment to their employees, according to their location.	3.0185	1.12419
There is an emergency plan for the public directorate and health centers that clarifies the emergency exits and assembly points outside of them in the event of disasters and crises.	3.0185	1.15727
In the public directorate and health centers there is a system for the proper disposal of all kinds of waste (sorting, collecting, transporting, final disposal).	3.5926	1.07315
The public directorate and the centers have employees' documentation records containing data related to the risks that employees are exposed to in their work environment.	2.5926	1.05542
In the public directorate and health centers, there are informative signs next to the machines and devices used by the employees clarifying the occupational health and safety instructions.	3.0000	1.19748
The public directorate and health centers contain used devices and machines equipped with self-protection methods.	3.0185	0.87934
All necessary measures are taken in the public directorate and the health centers for controlling vector and carriers of disease and infection in the workplace (rodents, insects, etc.).	3.1481	1.01698
All employees of the public directorate and health centers receive training in occupational health and safety programs	2.5000	1.09458
All employees of the public directorate and health centers receive general training on how to deal with occupational health and safety systems and devices in the directorate (fire systems, fire detection devices, use of fire extinguishers)	2.7037	1.03941
The public directorate and health centers adopt advanced and continuous training programs to develop performance in line with their occupational health and safety.	2.6111	0.95989
The public directorate and health centers are keen to continuously monitor the health of their employees.	2.8519	1.01698
Health centers and public directorate involve their employees in developing occupational health and safety programs.	2.519	1.0045
The public directorate and health centers are keen to monitor work conditions and identify the causes of occupational accidents and diseases that employees face in the work environment.	2.7407	1.06727
The public directorate and health centers provide a safe working environment for all of their administrative levels.	3.0370	1.06333

The employees of the public directorate and the health centers are informed, before practicing their work, of the dangers of their professions and obligated to use the prescribed methods of protection.	2.7593	1.06284
There is an annual plan for the directorate and health centers to implement occupational health and safety programs.	2.5556	1.00314
In the public directorate and health centers, training programs for new and existing employees are applied to familiarize them with the basics of occupational health and safety used in their work on an ongoing basis.	2.5185	1.05938
The public directorate and health centers are concerned with the participation of their employees in seminars or training courses specialized in the field of occupational health and safety	2.9444	1.03553
The public directorate and health centers allow their employees to make the right decisions that enhance the aspects of occupational health and safety within the directorate and its health centers.	2.8519	0.99825
The public directorate and health centers adopt appropriate planning in identifying, assessing and controlling the sources of work hazards.	2.8148	0.97272
The public directorate is keen on developing and improving the work environment in line with the technical developments related to the subject of occupational health and safety.	3.0370	1.00870

According to the answers of the study sample to all the statements of the questionnaire and based on the arithmetic mean of 54 answers, the arithmetic mean equals 2.84, which is higher than the average tool scale for this study; between the degree of neutrality (+ 2) and the degree of Approval (+ 3). As the answers of the study sample ranged between the highest value 3.59 and lowest value 2.42 for statements No. (22) and (19) , respectively.

Statement No. (22), which received the highest percentage of answers, states that “there is in the Public Directorate and health centers a special system for the proper disposal of all kinds of waste (sorting, collecting, transporting and final disposal) due to the existence of an instruction system No. 1 for the year 2001 issued by the official paper No. (4511) in which it recognizes the direct disposal of medical waste and under penalty of legal accountability for workers in the health sector, as well as a unit called the infection control in every district, and a coordinator officer in each center for this purpose to inspects the disposal process, along with provide training courses for the employees continuously.

In contrast, statement No. (19), showed the lowest percentage of answers, that states about the technical and financial capabilities, which due to the general economic conditions in the region, and particularly in the Kingdom, where the public safety requires a suitable infrastructure, together with financial support and human effort, besides lack of higher management cooperation; due to focusing on administrative and health matters in the first place.

The current study agreed with the study of (Al-Habeel and Ayyash, 2012), and that of Dejoy and Wilson (2003), that there is an application of safety and occupational health systems with a moderate degree. In contrast to (Shaheen et al. (2019), Habib et al. (2016), Manyele et al., (2008); Mashali, (2010); Isaac (2016); Qawareh(2015); Abu Nawas (2018) who disagreed with the results.

The second question

a) The results according to gender are listed in Table

Table 4:

The results according to gender

Health And Equal variance s assumed (Safety Equal variance s not assumed)	Levene's Test for Equality of Variances		t-test for Equality of Means		t-test for Equality of Means			t-test for Equality of Means	
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
	0.170	0.682	0.999	52	0.323	0.20536	0.20562	-0.20725	0.61796
					0.346	0.20536	0.21188	-0.24151	0.652220

Results from Table 4 show that there is no effect between the application of occupational health and safety systems and the gender variable as the level of sig = 0.682 (> 5%), then the null hypothesis that "There is no impact of demographic factors (gender, ...) on the application of safety and occupational health in different health centers in Ma'an governorate for the year 2019" is accepted.

This result is confirmed as well by several studies (Salem, 2009; Al-Tamimi, 2009; Al-Habeel and Ayyash, 2012; Said, 2015). Unlike Al-Mughni (2006): where the result showed an effect of gender on the application of safety and health regulations.

b) The years of experience

Table 5 shows that there is no effect between the application of occupational health and safety regulations and the variable of years of experience as the level the current study agreed with (Al-Habeel and Ayyash, 2012); Al-Mughni (2006) that there is no effect for years of experience.

Table 5:

The results according to years of experience

Health and safety	Sum of Squares	Df	Mean Square	F	Sig.
Among groups	0.503	2	0.251	0.628	0.538
Within groups	20.410	51	0.400		
Total	20.913	53			

c) Level of Education

The results show that there is no effect between the application of occupational health and safety regulations and the variable level of education. Where the as listed on Table 6. This outcome agrees with

Dhirdhari (2015); Al-Mughni (2006); Al-Habeel and Ayyash (2012) that there is no effect on the level of education on the application of OSH rules and regulations.

Table 6:

The results according to level of education

Health and safety	Sum of Squares	Df	Mean Square	F	Sig.
Among groups	0.084	2	0.042	0.103	0.902
Within groups	20.829	51	0.408		
Total	20.913	53			

d) The job title

Table 7 shows that there is no effect between the application of occupational health and safety systems and the variable of job title; where the sig = 0.626 (> 5%) This result disagreed with (Al-Habeel and Ayyash, 2012) that there is an effect for the job title.

Table 7:

The results according to job title

Health and safety	Sum of Squares	Df	Mean Square	F	Sig.
Among groups	1.062	4	0.266	0.656	0.626
Within groups	19.851	49	0.405	-	-
Total	20.913	53	-	-	-

Discussion the Results

- According to the first question: is there an application of occupational safety and health procedures in the public directorates and health centers in Ma'an governorate for the year 2019?

The researcher attributed that the current study came in a medium and positive degree, as there are appropriate mechanisms for the process of applying occupational health and safety procedures, and these systems are characterized by accuracy and clarity in implementation, which leads to positive results.

- The second question: is there an impact of demographic factors (gender, years of experience, educational level and job title) on the application of occupational safety and health procedures in the public directorates of health and health centers in Ma'an governorate for the year 2019?

The researcher attributes that all members of the sample even with different gender, years of experience, the educational level, and the job title; considered the occupational safety and health procedures in terms of all principles and goals, where each employee provided with all regulations that are concerned with his field since the first work day.

Conclusion

1. There is an application of the regulations of occupational safety and health in the governmental health sector in Ma'an governorate for the year 2019, with a medium degree.
2. There is no effect of application of occupational safety and health regulations due to the variable educational level, years of experience and job title. Despite an effect on gender only.

Recommendations

- Establish an occupational health and safety unit in the public directorate and centers, concerned with evaluating, analyzing the work environment and monitor the application of occupational health and safety procedures.
- Develop a strategy and policy for occupational health and safety in order to provide a safe environment to minimize work accidents and occupational work diseases among workers in the Ministry of Health.
- Invite all employees in setting plans and strategies that concern occupational safety and health.
- Carrying out more studies and research related to the impact of applying occupational safety and health procedures to the performance and production of workers.

References

- Abas, S. (2003), Human resource management, 1ed, Amman, Wa`el Publisher.
- Abdul-Muttalib, I. (2018). Occupational Safety and Health Administration and its Relationship to Worker Productivity. *Journal of Postgraduate Studies, Al-Neelain University*, 11. (43/1)
- Abu Khdeir, I. (2007). Organizational Learning Department at the Institute of Public Administration in Saudi Arabia: A proposal to implement the concept of a learning organization, Ph.D. thesis, King Saud University.
- Abu Hashish, B., Murtaja, Z. (2011). The extent to which there are dimensions for the learning organization at Al-Aqsa University from the viewpoint of its employees. *Journal of the Islamic University* 19, (2.) 397-438.
- Abu Nawas, O. M. (2018): The Impact of Implementing Occupational Safety and Health Systems on Employee Performance, *Journal of Human Development and Education for Specialized Research*. 4(2).
- Adas, A. (1999): Principles of educational research (3rd ed.)Al- Fourqan House of Publishing, Amman.
- Adel, G. M. (2015): The Role of Professional Security Programs in Improving Employee Performance, Case Study of Sonatrach, Directorate of Maintenance, Biskra, Unpublished Master Thesis, Mohamed Khoudir University, Biskra, Algeria.
- Al-Aqaylah, M. (2003). Modern Occupational Safety Administration. Amman, Safaa Publishing House.
- Al-Habeel, W., & Ayyash, A. (2012). Evaluate the effectiveness of occupational safety and health measures in laboratories from the workers' point of view. *The Islamic University Journal of Economic and Administrative Studies*, 20(2). 38- 143.
- Al-Mudayfer, F. (2006). The Effectiveness of Implementing Technical Occupational Safety and Security Systems: A survey study on the laboratories of the scientific departments of the college of girls, unpublished master's thesis, Naif Arab University for Sciences. Al-Umniah - Riyadh,
- Al-Mughni, O. S. (2006). The reality of occupational safety and security measures in the facilities of the manufacturing sector in the Gaza Strip. *The Islamic University, Palestine*.
- Al-Zalbani, R. A., Abdul M., and Al-Tabiqi, A. B. (2015): Providing occupational and environmental health services at Zagazig University, the third scientific forum for workers in the field of safety in universities, Faculty of Medicine, Taibah University, Saudi Arabia.

- Bou Said, S. (2015). The role of the Occupational Safety and Health Administration in improving the performance of workers in small and medium-sized industrial enterprises. Case Study, Plastic Transfer Institution - Wehda Ouargla, Master Thesis, Faculty of Economic, Commercial and Management Sciences, KasdiMirbah University - Warola, Algeria.
- Burns, R., & Burns, R. (2008). Cluster Analysis. In: Business Research Methods and Statistics Using SPSS, Sage Publications, Thousand Oaks.
- Chehimi, G. M., Hejase, A. J., & Hejase, N. H. (2019). An Assessment of Lebanese Companies' Motivators to Adopt CSR Strategies. *Open Journal of Business and Management*, 7, 1891-1925. <https://doi.org/10.4236/ojbm.2019.74130>
- Dejoy, D., Schaffer, B., & Wilson, M. (2003), Creating safer workplaces: assessing the determinants and role of safety climate, *Journal of Safety Research*, USA.
- Dhirdhari, M. (2015). The Contribution of Occupational Safety Programs to Reducing Work Accidents, Unpublished Master Thesis, University of Oran.
- El-Dirani, A., Houssein, M. M., & Hejase, H. J. (2020). An Exploratory Study of the Role of Human Resources Management in the Process of Change. *Open Journal of Business and Management*, 8, 156-174. <https://doi.org/10.4236/ojbm.2020.81010>
- Hejase, A. J., & Hejase, H. J. (2013). *Research Methods: A Practical Approach for Business Students*. 2nd Edition, Massadir Inc., Philadelphia, PA, USA.
- Isaac, H. Al-T. (2016). Occupational Safety and Health Culture in Engineering Work, Sudan University of Science and Technology, College of Engineering, Khartoum, Sudan.
- Khalil, A-E. A. (2008) Evaluation of the prevention and safety methods used in government hospitals in the Gaza Strip and their impact on employee performance, unpublished master's thesis, Islamic University, Palestine.
- Malhotra, N. K, (2004).Marketing research Prentice Hall., , fourth edition, New Jersey p.268.
- Manyele, S. V. (2008). The status of occupational safety among health service providers in hospitals in Tanzania, *Tanzania Journal of Health Research* Volume 10, No. 3.
- Mashali, B. (2010). The Role of Occupational Safety Programs in Improving Workers' Performance in Small and Medium Enterprises, Master Thesis, unpublished, Farhat Abbas Setif University.
- Muhammad, M. A. (2016). Effect of Occupational Safety and Health on Project Cost, Master Thesis, Sudan University of Science and Technology, Khartoum, Sudan.
- Nasima, M. (2018). Evaluation of the Efficiency of Occupational Health and Safety System in Reducing Work Accidents, Master Thesis, Faculty of Economic Sciences, Commercial Sciences and General Management, KassidiMerbah University, Ouargla, Algeria.
- Qawareh, H. (2015). Evaluation of the Effectiveness of the Occupational Health and Safety Management System According to the International Standard OHSAS 18001, Master Thesis, Faculty of Economic Sciences, Commercial Sciences and General Management, KassidiMerbah University, Ouargla, Algeria.
- Salem, S. (2009). The reality of occupational health and safety in industrial establishments in Palestine, *Journal. Al-Quds Open University for Research and Studies*, (16) ,141-184.
- Saray, B. (2016). The importance of the industrial security system in reducing work risks. Master Thesis, Faculty of Economic Sciences, Business Sciences and General Management, QasdiMerbah University, Ouargla, Algeria.
- Shaheen, H., Sheyban, S., Wanouf, H. (2019). Contribution to the development of assessing the risks of the construction industry on occupational health and safety, case study (the

coastal region in Syria), Tishreen University Journal for Research and Scientific Studies, V41 (5), Engineering Sciences Series, Lattakia, Syria.