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The Effect of the work Environment on Workers on Medical Laboratories in Some Hospitals in Diwaniya City in Iraq in Light of the Corona Pandemic

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Abstract

The work environment is an important factor affecting a worker's health, as it takes around eight hours at his workplace. In this study,This study was conducted with the aim of discovering the harmful factors present in the work environment and conditions,Effects on workers' health, and knowing the extent to which protection measures are applied to reduce the effects of these harmful factors. we used a descriptive and analytical approach to collect the necessary data. A questionnaire was prepared to consist of (6) dimensions containing (75) items. The laboratory medical personnel were studied in some Diwaniyah hospitals, and a stratified random sample was used to collect field data, as the sample size reached (100) individuals. Use spss program to analyze data. The study period extends from September to the end of April 2021.The result of present work are the commitment of the top management clearly affects the effectiveness of occupational safety and health measures and that there is awareness of the importance of personal protective equipment among laboratory workers, but there must be controls and application of occupational safety rules to maintain On the health of the workers

Keywords: Medical laboratories staff, work environment, Covid-19

Introduction

Healthcare professionals perform a variety of activities, most of which are related to patient care. They may be exposed to a variety of occupational hazards, including physical, chemical, biological, ergonomic, and psychological hazards while performing their duties (Leite et al., 2018). According to the World Health Organization, occupational risks in the health sector are higher than in other areas such as manufacturing and construction are staggering on Less to appreciate. As mentioned earlier the above risk factors account for the vast majority of deaths in Europe, as well as occupational disorders(Al-Khatib et al .,2015), From a multidisciplinary perspective, occupational health and safety (OHS) address the objectives of protecting workers and workplaces, lowering the incidence of workplace accidents, sufficient training, and increasing employee awareness (Inan et al., 2017) The risks that increase workers' exposure to illness and accidents in the work environment are among the occupational risks that lead to injuries and death. (Awan

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et al., 2017) Moreover, training is important and necessary for workplace safety. It is an important component of workplace risk reduction systems because it provides workers with practical information on issues related to technology, management, and regulatory enforcement, as well as important topics such as occupational safety program development, recruitment, mentoring, and evaluation (Friend and Kohn, 2018). Work environment refers to everything that surrounds an employee and has the ability to influence how successful he is in accomplishing the tasks assigned to him (Ramli, 2019). Accidents at work are a random event, but training and use of preventive equipment and resources can help reduce the number of accidents or diseases (Beriha et al., 2012) such as covid-19 that appeared in Wuhan, China, at the end of 2019 (Chan et al., 2020) in animals infected with the virus and transmitting it to humans (Li, Q. et al., 2020) is the main source of infection spread from person to person. By coughing and sneezing, leading to acute respiratory syndrome McIntosh et al., 2020)**(**

Methodology:

This study employed a cross-sectional survey to investigate the influence of work environment on health and job performance of workers in addition to its related factors and cause in light of the Corona crisisIt was conducted among medical laboratory staff in three hospitals and a public health laboratory in the city of Diwaniyah(Al-Diwaniyah Teaching Hospital, Women's and Children's Teaching Hospital, and Al-Hussein Children's Hospital),The study sample was 100 samples, Data was gathered using a questionnaire form and a direct interview of lab staff ,Questionnaires have been developed and Constructed by the researcher and the supervisors and updated by an expertsThe form consisted of employees' personal information and 6 paragraphs (availability of protective equipment in light of the Corona pandemic, assessment of the work environment, assessment of physical hazards, assessment of chemical hazards, samples handling &psychological hazard,and ergonomic hazards assessment) .The researcher used Likert scale five-point scale to assess these risks in addition to using (SPSS.VR-25)program to enter data , $P \leq 0.05$ was used to determine if the variations between observations were meaningful .

Results& Discussion

The results of the study included that (53) males, with a percentage of (53%), while included (47) females and a percentage of (47%) of laboratories worker This finding was in line with(Tait, 2019) the results. And it included (39) of the age group (20-30) years with a percentage of (39%), while it included (39) of the age group (31-40) with a percentage of (39%). It included (15) of the age group (41-50), at a percentage of (15%). It included (7) of the age group (over 50). At a rate of (7%), this result was consistent with the results of (Al-Abhar et al .,2017) , The tables of iterations according to the educational level were included of those holding a diploma with a percentage of (22%). 64 of the holders of a bachelor's degree by (64%), and it included (10) of the holders of a master's degree, at a rate of 10%, as well as included (2) PhD holders, with a percentage of 2%, as well as 2 holders of a higher diploma, at

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a rate of 2%, and this result is consistent with research proportions ((Al-Abhar et al., 2017) , The results of the study according to the years of service are as follow (32) Those whose service period is less than five years, at a rate of (32%). The study was conducted on (35) those who served from 5 to 15 years, at a rate of (35%). It also included (24) those who served from 16 to 25 years, at a rate of 24%. It also included (9) for those who have service more than 25 years and a percentage of its value is 9%

Through the statistical analysis of the data, it appeared in table (1) that the institution provides personal protection means to prevent corona virus, as well as the commitment of the laboratory staff to wear this device for the purpose of limiting the transmission of infection between laboratory workers and patients, and this is a constant. With a lot. Studies, including those that showed that adherence to using personal protective equipment has a prominent role in avoiding infection (Anza et al., 2016), and that a very large proportion of workers believe that prevention is the first line of defense against the spread of Covid-19 infection. Which makes them a great motivation in commitment to professional safety means The number of people without corona is considered the largest group, although there is a large percentage of those infected with this due to the lack of control to deter those who are not required to wear the safety equipment agreed upon (Pusfitasari, 2017). Nevertheless, the institution takes the necessary measures against injuries of laboratory workers, Like vacations ,The study also foundInsufficient ventilation of the work environment contributes to the ease of spreading Covid 19 infection among workers*The results of a study were opposite(Al-Omari and Okasha, 2017),* in table (2) The study showed that there are employees who have good experience to performing work in medical laboratories and the places where samples are taken separate from the laboratory, in addition to storing samples in safe conditions to preserve them. However, there are psychological problems that a large number of workers are exposed to, including verbal violence by patients and their families, and this corresponds to (Chirico et al., 2019). They are also exposed to anxiety and stress from the epidemic during job performance, which reduces the body's immunity to defend against the Covid 19 virus, and this is what has been proven by many studies on the Corona virus, according to the results of this research, relationships with employers are important and can explain employee welfare levels. . This is similar to the research (Baylina et al., 2018)

Table (1) Mean , the Standard Deviation (S.D.) and P-value for evaluating the availability of protection tools in light of Corona pandemic.

N	Standards	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	S.D.	p-value

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1	Commitment to wear personal protective equipment (such as masks and gloves)(	45	41	6	8	0	1.77	0.885	0.00
2	Availability of protective equipment inside the laboratory (sterilizer ,Tissue paper and goggles)	41	42	7	9	1	1.87	0.96	0.00
3	Laboratory personnel wear special medical clothing	38	43	14	5	0	1.86	0,841	0.00
4	The laboratory has a high degree of hygiene and sterilization	24	45	20	7	4	2.22	1.02	0.00
5	You see that the means of prevention is necessary	77	23	0	0	0	1.23	0.422	]0.00
6	The institution provides the means of prevention and safety in the work environment	28	38	21	13	0	2.19	0.99	0.00
7	The Foundation provides the necessary preventive measures to protect you	29	37	20	12	2	2.21	1.056	0.00
8	A biosafety manual is available in the laboratory	26	39	20	14	1	2.25	1.028	0.00
9	The Biosafety Manual contains general safety rules for laboratory work	25	43	20	12	0	2.19	0.95	0.00
10	The Biosafety Manual contains preventive safety measures for covid19 corona	32	39	16	10	3	2.13	1.069	0.00
11	The safety manual contains emergency procedures	47	35	14	3	1	1.76	0.877	0.00
12	Glassware and reusable tools	36	39	13	8	4	2.05	1.085	0.00

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	such as scalpels are sterilized								
13	Provide alarm devices inside the laboratory	39	33	10	13	5	2.21	1.2	**0.00**
14	It is forbidden to wear eye lenses or prostheses when conducting experiments	47	29	12	10	2	1.9	1.08	**0.00**
15	The laboratory is permanently sterilized to prevent infection	38	51	3	4	4	1.85	0.957	**0.00**
16	You have been exposed to a Coronavirus infection	31	14	4	40	11	2.86	1.49	**0.00**
17	The administration takes appropriate measures in the event that some working individuals are exposed to Corona infection, such as vacations and others	53	37	4	2	4	1.67	0.954	**0.00**

Table (2) Mean ,the Standard Deviation (S.D.), and P-value aof samples handling &psychological hazard

N	Standers	Strongly Agree	Agree	Neutral	disagree	Strongly disagree	Mean	S.D.	p-value
1	The blood drawing process is carried out by a well-experienced staff	49	39	7	3	2	1.7	0.88	**0.00**
2	An adhesive tape is placed over the sample taken, containing the patient's personal information	41	44	10	4	1	1.8	0.85	**0.00**
3	The laboratory has the freezer box available for taking samples at home	35	40	9	15	1	2.07	1.06	**0.00**
4	Samples are stored under appropriate conditions	30	54	13	1	2	1.91	0.80	**0.00**
5	The primary sampling facilities are separate	25	37	16	17	5	2.4	1.18	**0.00**

	from the laboratory room								
6	Exposure to anxiety and stress during work	33	34	21	8	4	2.16	1.09	0.00
7	Being harmed by patients and their families	16	29	22	21	12	2.84	1.26	0.00
8	The organization is committed to a fair and respectful workplace	7	39	30	17	7	2.7800	1.04040	0.00
9	There is awareness about violence and psychological problems in the workplace	7	43	29	13	8	2.7200	1.04524	0.00
10	Violence from patients or their families	8	24	12	34	22	3.3800	1.28535	0.00
11	Bullying from the boss	1	19	11	43	26	3.7400	1.07891	0.00
12	Bullying from colleagues at work	4	22	13	39	22	3.5300	1.17598	0.00

Conclusions:

Majorityof the laboratory employees were 20-40 years old, most of them males,Among the most important problems that must be highlighted are psychological problems among workers.

Conflict of interest: none

Funding and financial support: none

Ethical approval

The researcher attached an explanation of each questionnaire in Arabicand gave each participant a form of study, includingIn the consent form, the participants were also provided with an information sheet that specifies the purpose of the study and the voluntary nature of participation, and it was assured that their data will be treated with complete confidentiality. All data were treated as confidential and stored securely, with only access restricted to the immediate search team

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