



Attitudes and Practices regarding Occupational Hazards among a Sample of Medical and Paramedical Staff in Baghdad Governorate

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ABSTRACT

Aims The aim of the study was to identify the levels of attitudes and practices of medical and paramedical staff, and determine the association of different demographic variables of medical and paramedical staff with attitudes and practices regarding occupational hazards in their workplaces.

Instrument & Methods A descriptive cross-sectional study was carried out in hospitals and health centers, During the period from January 5th, 2022 ending on April 10th, 2022, 485 staff individuals participated in the study, information about Attitudes and practices collected through a structured questionnaire developed by the researcher.

Findings Regarding the attitudes of the staff, the results observed that all responses regarding the preceding domain had a "Good" evaluation, While the practices of the medical and paramedical staff that were studied, the results that observed the most responses regarding of preceding domain had a "Good" evaluation with some of responses was "Accepted" and "Poor".

Conclusion The medical and paramedical staff had "Good" attitudes and practices regarding the occupational hazards in their working environment.

Keywords Knowledge; Attitude; Practice

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Introduction

Hazards are an intrinsic characteristic of a material, agent, source of power, or circumstance that has the potential to generate undesirable consequences, whereas risk is the probability that damage to "life, health, and environment" that could arise from hazard. Occupational hazards in this context, are workplace reactions that can produce or raise the risk of harm or illness [1, 2].

Occupational hazards refer to any activities that have a possible cause or increase the risk in the workplace [2]. The multiplying effects of occupational injuries and diseases among providers of health care include economic loss, physical loss, and psychological disorders such as depression and stress. Consequently, these have a negative effect on the employees, their families, and the nation at large [3].

World Health Organization categorizes the hazards in health care facilities (HCF) as physical, biological, mechanical, ergonomic, chemical, and psycho-social. Occupational illnesses and injuries among health care workers (HCW) are among the greatest in any industry, according to earlier studies, yet they might be lowered or eliminated [4].

Occupational hazards among hospital staff, Lifting, pushing, or dragging patients to beds, chairs, and toilets can cause injuries, work-related stress, and low back discomfort in hospital employees [5].

Furthermore, the high incidence and burden of occupational hazards also include blood-borne diseases such as hepatitis B and human immunodeficiency virus (HIV) infection since being exposed to infectious sharp objects such as needle stick injuries, scalpel blades, shattered glass, and taking samples of blood, as well as connecting or removing needles from sick people [6-8].

Because workplace accidents do not occur on purpose, they must be studied extensively and openly discussed when they occur. These must be considered as a source of knowledge that produces attitude and information because events offer the opportunity for learning and knowledge formation in preparation for future events [7-9].

An increasing prevalence of occupational hazards may also deteriorate the overall facility climate and the efficiency of patient care provided by healthcare staff [10].

In the developing world, occupational health risks are frequent, particularly as they relate to job overload, the inadequacy of task control, and role conflicts. Other reasons include inefficient administration, unequal management methods, and human and economic aspects, staff behaviors and practices have significant consequences in terms of care settings such as psychosocial, physical, chemical, mechanical, and biological risk [11].

According to a study conducted in Palestine, a disproportionately high number of needlestick injuries is caused by inadequate practices such as incorrect nurse vaccination and violations of infection control guidelines at work [12].

In addition, due to a lack of awareness of suitable post-injury treatments and the assumption that the source was not contagious, health personnel fail to take preventive measures to reduce the occurrence of further losses [13].

Data on awareness of safety procedures and work-related dangers and hazards among healthcare workers and their methods remain poor in most poor and developing countries [14].

attitudes and practices' impacts do not overlook the role of working environment elements such as temperature, humidity, lighting, noise, and housekeeping on performance levels. Each of these factors can impair employees' cognitive abilities, such as concentration, awareness, reasoning, judgment, and so on, making them more vulnerable to occupational accidents [15, 16].

In a recent research study, the healthcare staff made it clear that training programs and functional advanced education would offer them a comprehensive indication of the essential skills and knowledge required to deal with occupational hazards. Preventing injury from occupational hazards in a healthcare setting entails preventing work-related associated risks and enhancing healthcare conditions [17], and making emergency care available to all levels of health workers, and having occupational dangers and hazards related to safety practices [18].

The aim of the study was to identify the levels of attitudes and practices of medical and paramedical staff, and determine the association of different demographic variables of medical and paramedical staff with attitudes and practices regarding occupational hazards in their workplaces.

Instrument and Methods

Descriptive cross-sectional study, in which The data collection continued for more than 4 months starting on 3rd December 2021 and ending on 10th March 2022, with 7 days a week of sample data collection during this period, The interview of each participant for the entire questionnaire took about approximately 15 minutes, the study was done at Baghdad governorate, which is the capital and biggest city in Iraq, Its estimated population in 2019 was 8,340,711 people [19], 2 hospitals and one health center from each of the three health directorates that are located in Baghdad. The sample number was 485 participants, (184 Medical staff and 301 Paramedical staff) selected randomly from the selected places of study. The study population

consists of all the medical and paramedical staff who works in Baghdad governorate health directorates which were 485 and the sample size was estimated using the Raosoft sample size calculator, by using this calculation, the total sample was 382 participants. We add 25% (95.5) to ensure compensation for the loss or refusal to participate by some respondents, so the total number becomes $382+95.5=477.5 \approx 485$ to more accurate. Inclusion criteria included the Medical and paramedical staff from both genders in selected hospitals and health centers from AL-Karkh, AL-Rusafa, and Medical City Health Directorates, While the exclusion criteria included any Visiting or rotating physicians from other departments and medical and paramedical staff that are not cooperative or not willing to participate.

The study instrument used to gather the information about attitudes and Practices of medical and paramedical staff was a structured questionnaire that the researcher developed depending on previous studies [20, 21] and modified, The questionnaire was divided into 3 sections.

-Demographic and socio-economic concerning demographic and socio-economic data contain 13 items including age, gender, years of experience, educational level, health care specialty, Residence, Marital Status, number of Family members, Property, Department (Working area), and Years of experience.

-Attitudes of medical and paramedical staff contain 16 questions, evaluated by setting five Likert scales (Strongly Disagree, Disagree, Undecided, Strongly agree) with integer numbers (1, 2, 3, 4, 5) respectively, evaluation intervals are symbolized due to relative sufficiency statistic for the attitudes items by 20.00-46.66 for poor; 46.67-73.33 for an accepted; and 73.34-100 for the good evaluations.

-Practices of medical and paramedical staff contains 31 questions practices domain evaluated by setting three Likert scales (Never, Sometimes, and Always) with integer numbers (1, 2, 3) respectively, evaluation intervals are symbolized due to relative sufficiency statistic by (33.33-55.55 for poor; 55.56-77.77 for an accepted and 77.78- 100 for the good evaluations.

Reliability of the questionnaire was used to determine the accuracy of the questionnaire since the results showed a very high level of stability and internal consistency of the studied items of the applied questionnaire ($\alpha=0.88$).

The statistical data analysis approaches were used to analyze and assess the results of the study under the application of the statistical package (SPSS) ver. 21.0:

Descriptive data analysis:

a- Tables (Frequencies, and Percentages) with Arithmetic mean, and standard deviation (SD).

b- Where relative sufficiency (RS%) is calculated by:

$$R.S. \% = \frac{\text{Mean of Score}}{\text{no. of Scoring Scales}} * 100\%$$

c- Transformed studied domains for screening estimators grand and global mean of the score of overall assessments through transforming the recorded responses of each period in quantitative measure scale using percentile transformation technique by applying:

$$\text{Percentile value} = \left[\frac{(\text{Sum of actual scoring} - \text{Sum of Min. of scoring scale})}{\text{Range of Sum scoring scale}} \right] * 100\%$$

d- Reliability Coefficient for the Pilot study through using Al-Naqeeb Formula [*]:

$$\text{Reliability value} = \left(1 - \frac{\text{no. of non-coincidence items}}{\text{no. of all items} * \text{sample size of the pilot study}} \right) * 100\%$$

e- Alpha Cronbach (α) for the reliability of the questionnaire (Internal consistency).

Where ;

$$\alpha = \frac{K}{K-1} \left[1 - \frac{\sum_{i=1}^K \sigma_{ii}}{\sum_{i=1}^K \sum_{j=1}^K \sigma_{ij}} \right]$$

Where; K is the number of items (questions) and σ_{ij} is the estimated covariance between items i and j. Note the σ_{ii} is the variance (not standard deviation) of item i.

f- Graphical presentation by using:

- Bar Charts.
- Cluster Bar Charts.

Inferential data analysis:

These were used to accept or reject the statistical hypotheses, which included the following: One sample Chi-Square test, Binomial test for testing the difference of distribution of the observed frequencies, Contingency Coefficients test.

Findings

The mean age of participants was 32.29 ± 8.93 . Table 1 shows distribution of studied health care provider's socio-demographical characteristics and

distribution of the studied Sample according to Departments (Working Area) showing their observed frequencies and cumulative percent, Health care providers from the “medical technician” specialty of the sample size are formed 99 (20.4%) then followed by nurse specialty with 98 (20.2%), for “Residency” variable, urban residents formed 429 (88.5%), as well as “Educational Levels” showed that most of studied health care providers are graduated institute, regarding bachelor’s degrees since they are accounted 274 (56.5%), and then for “Marital Status” the married formed 275 (56.7%), while single status are formed 190 (39.2%), as for “Years of Experience”, more than half of studied health care providers with (1-5) years of experience represented by the first group, and finally “Working overtime”, results shows more than half of studied

health care providers who hadn’t work overtime, and they are accounted 266 (54.8%).

Table 2 shows statistics for “Health care Provider's Attitudes toward occupational hazards from a point of view's medical and paramedical staff” among sampling population hospitals and Health care Centers in Baghdad governorate.

Table 3 shows a summary statistic for “medical and paramedical staff Practices toward occupational hazards among sampling population hospitals and Health care Centers in Baghdad governorate.

Results that observed the most responses regarding of preceding domain had a “Good” evaluation and are assigned 28 (87.5%) items, and an “Accepted” evaluation are assigned 1 (3.23%), and the leftover items has a “Poor” evaluation 2 (6.45%).

Table 1) Distribution of the studied health care provider's socio-demographical characteristics variables with comparisons significant

Variables	Groups	N	%	p-value
Gender	Male	220	45.4	0.046
	Female	265	54.6	
Age Groups (Year)	20-29	254	52.4	0.0001
	30-39	133	27.4	
	40-49	60	12.4	
	50-60	38	7.8	
Health Care Provider specialty	Physician	69	14.2	0.0001
	Dentist	53	10.9	
	Pharmacist	62	12.8	
	Nurse	98	20.2	
	Medical Technician	99	20.4	
	Doctor Assistant	91	18.8	
	Other paramedical specialties	13	2.7	
Residency	Urban	429	88.5	0.0001
	Rural	56	11.5	
Educational Levels	Secondary school	32	6.6	0.0001
	Institute	155	32	
	Bachelors' degree	274	56.5	
	Masters' Degree	16	3.3	
Marital Status	Single	190	39.2	0.0001
	Married	275	56.7	
	Divorced	11	2.3	
	Widowed	9	1.8	
Years of Experience	1-5	265	54.6	0.0001
	6-10	83	17.2	
	11-15	53	10.9	
	>15	84	17.3	
Working Overtime	Yes	219	45.2	0.037
	No	266	54.8	
Departments (Working Area)	Emergency	39	8	-
	Intensive Care	15	3.1	
	Operation room	24	4.9	
	Patients wards	65	13.4	
	Radiation room	13	2.7	
	Laboratories	76	15.7	
	Physiotherapy	6	1.2	
	Consultant clinic	29	6	
	Administrative departments	23	4.7	
	Dental Clinics	48	9.9	
	Optics Clinics	7	1.4	
	Pharmacy	42	8.7	
	Primary health care	98	20.2	

Table 2) Summary statistics of health care provider's attitudes toward occupational hazards

Items	Response	N	%	Mean±SD	%RS
It's better to Wear shoes designed for healthcare staff, with non-slip soles although it is so expensive (30 \$)	Strongly disagree	7	1.4	3.89±1.00	77.80
	Disagree	44	9.1		
	Undecided	94	19.4		
	Agree	188	38.8		
	Strongly agree	152	31.3		
Extreme care may need when handling sharp objects although it will take time, equipment, and attention.	Strongly disagree	2	0.4	4.42±0.70	88.40
	Disagree	5	1		
	Undecided	31	6.4		
	Agree	198	40.8		
	Strongly agree	249	51.4		
Use special safety receptacles to store used needles even though they may be not available where you work.	Strongly disagree	2	0.4	4.35±0.73	87.00
	Disagree	6	1.2		
	Undecided	45	9.4		
	Agree	200	41.2		
	Strongly agree	232	47.8		
Follow appropriate procedures in handling and disposing of sharp instruments or needles even though you may need appropriate equipment and spend time and effort on that.	Strongly disagree	2	0.4	4.38±0.72	87.60
	Disagree	7	1.4		
	Undecided	34	7		
	Agree	206	42.5		
	Strongly agree	236	48.7		
Call a qualified electrician to test and repair faulty or suspect equipment although this action may take days due to the current routine.	Strongly disagree	1	0.2	4.21±0.74	84.20
	Disagree	6	1.2		
	Undecided	66	13.6		
	Agree	227	46.8		
	Strongly agree	185	38.2		
Comply with all safety instructions on the installation of any equipment or device even though this may take being an expert, read the manufacturer guide and apply it precisely and take much time	Strongly disagree	3	0.6	4.18±0.74	83.60
	Disagree	4	0.8		
	Undecided	68	14		
	Agree	240	49.5		
	Strongly agree	170	35.1		
Periodic inspection of electrical medical equipment although it may need attention, time, and effort and the equipment may look properly work	Strongly disagree	3	0.6	4.29±0.71	85.80
	Disagree	3	0.6		
	Undecided	45	9.3		
	Agree	233	48		
	Strongly agree	201	41.5		
Keep all passages visible and uncluttered although this may need continuous attention and service	Strongly disagree	2	0.4	4.35±0.68	87.00
	Disagree	3	0.6		
	Undecided	37	7.6		
	Agree	222	45.8		
	Strongly agree	221	45.6		
Wear a radiation protective dosimeter when exposed to radiation, although it is a boring action and needs regular check	Strongly disagree	3	0.6	4.27±0.82	85.40
	Disagree	8	1.6		
	Undecided	71	14.7		
	Agree	174	35.9		
	Strongly agree	229	47.2		
Comply with all safety instructions which require accuracy, attention, compliance, efforts, and time	Strongly disagree	4	0.8	4.32±0.75	86.40
	Disagree	6	1.2		
	Undecided	41	8.5		
	Agree	213	43.9		
	Strongly agree	221	45.6		
Use non-latex or powder-free latex gloves even though it may cause discomfort, difficulty in handling some objects, and financial burden when the health facility can't provide them adequately	Strongly disagree	6	1.2	4.13±0.90	82.60
	Disagree	20	4.1		
	Undecided	72	14.9		
	Agree	193	39.8		
	Strongly agree	194	40		
Follow infection control precautions regarding blood, body fluids and tissue are infectious although it may obscure the influence of the work and lay us an additional burden of discomfort and efforts	Strongly disagree	7	1.4	4.43±0.78	88.60
	Disagree	7	1.4		
	Undecided	26	5.4		
	Agree	175	36.1		
	Strongly agree	270	55.7		
Routinely use barriers (such as gloves and gowns) despite their discomfort	Strongly disagree	3	0.6	4.29±0.83	85.80
	Disagree	21	4.3		
	Undecided	37	7.7		
	Agree	194	40		
	Strongly agree	230	47.4		
Wash hands when coming into contact with blood or body fluids although washing facilities may be not near your workplace	Strongly disagree	1	0.2	4.58±0.66	91.60
	Disagree	6	1.2		
	Undecided	23	4.7		
	Agree	136	28		
	Strongly agree	319	65.9		
Using lifting aids for the lifting and transport of heavy patients even though these aids may not available or the facility has a shortage in it or require financial support for it and cause additional effort for you	Strongly disagree	0	0.00	4.27±0.72	85.40
	Disagree	4	0.80		
	Undecided	64	13.2		
	Agree	214	44.1		
	Strongly agree	203	41.9		
Consult an occupational safety specialist for the safe handling of heavy patients despite the shortage of these specialists and this may delay your work and cause problems with the patients	Strongly disagree	1	0.2	4.09±0.82	81.80
	Disagree	11	2.3		
	Undecided	101	20.8		
	Agree	200	41.2		
	Strongly agree	172	35.5		

Table 3) Summary statistics of health care provider's practices toward occupational hazards

Items	Response	N	%	Mean± SD	%RS
Wear shoes designed for nurses, with non-slip soles	Never	62	12.8	2.30±0.68	76.7
	Sometimes	215	44.3		
	Always	208	42.9		
Handle sharp objects with extreme care	Never	8	1.6	2.82±0.43	94.0
	Sometimes	72	14.8		
	Always	405	83.5		
Use special safety receptacles to store used needles.	Never	0	0.00	2.80±0.40	93.3
	Sometimes	98	20.2		
	Always	387	79.8		
Follow appropriate procedures in handling and disposing of sharp instruments or needles	Never	9	1.9	2.81±0.44	93.7
	Sometimes	75	15.5		
	Always	401	82.7		
Call a qualified electrician to test and repair faulty or suspect equipment.	Never	35	7.2	2.51±0.63	83.7
	Sometimes	167	34.4		
	Always	283	58.4		
Comply with all safety instructions on the installation	Never	27	5.6	2.61±0.59	87.0
	Sometimes	134	27.6		
	Always	324	66.8		
Periodic inspection of electrical medical equipment.	Never	27	5.6	2.53±0.60	84.3
	Sometimes	172	35.5		
	Always	286	59		
Wear a radiation protective dosimeter when exposed to radiation	Never	72	14.8	2.41±0.73	80.3
	Sometimes	142	29.3		
	Always	271	55.9		
Comply with all safety instructions.	Never	30	6.20	2.61±0.60	87.0
	Sometimes	128	26.4		
	Always	327	67.4		
Use non-latex or powder-free latex gloves.	Never	24	4.90	2.48±0.59	82.7
	Sometimes	206	42.5		
	Always	255	52.6		
Follow infection control precautions regarding blood, body fluids and tissue are infectious	Never	9	1.90	2.75±0.47	91.7
	Sometimes	103	21.2		
	Always	373	76.9		
Routinely use barriers (such as gloves and gowns)	Never	20	4.10	2.58±0.57	86.0
	Sometimes	162	33.4		
	Always	303	62.5		
Wash hands immediately after removing gloves	Never	8	1.60	2.80±0.44	93.3
	Sometimes	79	16.3		
	Always	398	82.1		
Wash hands when coming into contact with blood or body fluids	Never	8	1.6	2.86±0.39	95.3
	Sometimes	52	10.7		
	Always	425	87.6		
Use lifting aids for the lifting and transport of heavy patients	Never	46	9.5	2.44±0.66	81.3
	Sometimes	178	36.7		
	Always	261	53.8		
Consult an occupational safety specialist for the safe handling of heavy patients	Never	69	14.2	2.31±0.71	77.0
	Sometimes	199	41.0		
	Always	217	44.7		
The presence of adequate protective aids and equipment	Never	48	9.9	2.36±0.65	78.7
	Sometimes	216	44.5		
	Always	221	45.6		
Prolonged standing	Never	42	8.7	2.36±0.64	78.7
	Sometimes	227	46.8		
	Always	216	44.5		
Inadequate use of modern facilities	Never	96	19.8	2.16±0.73	72.0
	Sometimes	213	43.9		
	Always	176	36.3		
Hand washing with a bactericidal agent	Never	30	6.2	2.54±0.61	84.7
	Sometimes	165	34		
	Always	290	59.8		
Wear Gloves	Never	32	6.6	2.54±0.62	84.7
	Sometimes	160	33		
	Always	293	60.4		
Wear Gowns (apron)	Never	51	10.5	2.40±0.67	80.0
	Sometimes	191	39.4		
	Always	243	50.1		
Wear Caps	Never	100	20.6	2.24±0.77	74.7
	Sometimes	169	34.8		
	Always	216	44.5		
Wear Masks (goggles)	Never	22	4.5	2.66±0.56	88.7
	Sometimes	120	24.7		
	Always	343	70.7		

Continue of Table 3) Summary statistics of health care provider's practices toward occupational hazards

Items	Response	N	%	Mean± SD	%RS
Environmental control e.g. effective waste handling	Never	18	3.7	2.72±0.52	90.7
	Sometimes	98	20.2		
	Always	369	76.1		
Safe disposal of sharps	Never	20	4.1	2.78±0.51	92.7
	Sometimes	68	14		
	Always	397	81.9		
immunization against: hepatitis B	Never	49	10.1	2.62±0.66	87.3
	Sometimes	86	17.7		
	Always	350	72.2		
immunization against: tetanus	Never	53	10.9	2.64±0.67	88.0
	Sometimes	71	14.6		
	Always	361	74.4		
immunization against: COVID-19	Never	20	4.1	2.76±0.52	92.0
	Sometimes	77	15.9		
	Always	388	80		
Use of available Prophylactic treatment and/or procedures following exposures	Never	19	3.9	2.56±0.57	85.3
	Sometimes	173	35.7		
	Always	293	60.4		
Correct body posture during procedures	Never	13	2.7	2.58±0.55	86.0
	Sometimes	176	36.3		
	Always	296	61		

To find out relationships between redistribution of medical and paramedical staffs' responses regarding studied main domains: Attitudes, and Practices, as well as overall domains in admixed form through a cutoff point ($\leq Md$, and $> Md$), and studied health care provider's socio-demographical characteristics, and some others relate variables, Table 4 shows the statistics of relationships by estimating a contingency coefficients values and testing their significant levels. Results show that regarding the subject of (Attitudes) an overall main domain responding, results observed a weak relationship since no signs are accounted for at $p>0.05$ variables with socio-demographical characteristics and some related variables.

Concerning subjects of Practices, an overall main domain result observed strong relationships due to the significant levels with Department (Working area), and Socio-Economic Status) only, since significant relationships are accounted in at least at $p<0.05$.

Table 4) Relationships between subjects' attitudes and practices with their socio-demographical characteristics based on a contingency coefficient test.

Variables	Attitudes Sig.	Practices Sig.
Health Directorate	0.017	0.929
Hospitals and Centers	0.133	0.369
Gender	0.069	0.129
Age Groups	0.067	0.537
Health care providers	0.136	0.166
Level of Education	0.044	0.922
Department	0.144	0.593
Residency	0.011	0.814
Marital Status	0.084	0.328
Years of Experience	0.048	0.774
Socio-Economic Status	0.022	0.890

Discussion

Regarding the educational level, the study sample had the largest part of people with a bachelor's degree (56.5%). This result differs from what [22, 23] found in other parts of Iraq, where the highest

percentage of the analyzed sample held a Diploma degree, this could be attributed to the presence of many colleges in Baghdad, which gives students a lot of choices, and the city has a lot of private businesses, which makes it a good place for elite people to live.

According to the current study, medical technicians (20.4%) and nurses (20.4%) had the greatest levels of health care provider specialty. This result is comparable to what was found in the city of Sulaymaniyah [23].

The majority of the staff who were studied here stated that the most occupational hazard that they are aware of is "Biological hazard." There has been no previous study to compare the staff's awareness of particular hazards, but this is an expected result because another study in Iraq found that the vast majority of staff that they studied had been exposed to "Biological hazards" alone [23].

Results from this study reveal that staff has a "Good" attitude toward occupational hazards in the workplace, which is consistent with findings from a prior study in Kerbala city [24].

The study results, on the other hand, conflict with an Ethiopian study [25] and a Cypriot study [26], in which this study was higher than the Ethiopian and Cypriot staff attitudes, This difference could be linked to the fact that, in recent years, Iraqi employees have developed a predisposition for favorable attitudes toward OSH as an outcome of recent knowledge and modern information technology.

the practices of staff regarding the occupational hazards that surround them in healthcare facilities is "Good" practice, which is coherent with the previous findings in Kerbala City [22] and Egypt [27,28].

On the other hand, the results of this study, which revealed a "Good" overall practice for the studied medical and paramedical staff, contradict many previous studies because it has a higher score than studies [29-33].

This study recommends that the government health authorities establish active, effective programs to develop the existing OSH departments in health facilities, elevate them to high administrative levels, and provide them with the necessary resources to implement and maintain OSH regulations in their facilities. Practical workshops is essential that continual efforts be made to improve the staff's attitudes and practices regarding occupational hazards, how they impact them, and how to control and prevent them, and There should be an active, strict surveillance system to make sure that the staff and the health facility's management are following the guidelines regarding occupational hazards.

Conclusion

Most hospital and health center employees have "good" attitudes and good practices regarding occupational hazards in their surrounding workplaces, with indications of the presence of "poor" practices as related to "prolonged standing" and "inadequate use of modern facilities" in the workplace. The influence of educational level on total assessment is quite evident; the higher the educational level of the employees, the better the result. Among the other departments, the laboratory staff has the highest scores.

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References

- 1- Ford MT, Tetrack LE. Relations among occupational hazards, attitudes, and safety performance. *J Occup Health Psychol.* 2011;16(1):48.
- 2- Tziaferi SG, Sourtzi P, Kalokairinou A, Sgourou E, Koumoulas E, Velonakis E. Risk assessment of physical hazards in Greek hospitals combining staff's perception, experts' evaluation and objective measurements. *Saf Health Work.* 2011;2(3):260-72.
- 3- Osungbemi B, Adejumo O, Akinbodewa A, Adelosoye A. Assessment of occupational health safety and hazard among government health workers in Ondo City, Southwest Nigeria. *Br J Med Med Res.* 2016;13(8):1-8.
- 4- Aluko OO, Adebayo AE, Adebisi TF, Ewegbemi MK,

Abidoye AT, Popoola BF. Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare workers. *BMC Res Notes.* 2016;9(1).

5- Davis C, Lackovic M, Singleton C. Occupational health brief: low back pain disorders in Louisiana workers. *Saf Heal.* 2011;2011:1-3.

6- Mbaisi EM, Wanzala P, Omolo J. Prevalence and factors associated with percutaneous injuries and splash exposures among health-care workers in a provincial hospital, Kenya, 2010. *Pan Afr Med J.* 2013;14(1).

7- Omar AA, Abdo NM, Salama MF, Al-Mousa HH. Occupational injuries prone to infectious risks amongst healthcare personnel in Kuwait: a retrospective study. *Med Princ Pract.* 2015;24(2):123-8.

8- Bekele T, Gebremariam A, Kaso M, Ahmed K. Factors associated with occupational needle stick and sharps injuries among hospital healthcare workers in Bale Zone, Southeast Ethiopia. *PLoS One.* 2015;10(10):e0140382.

9- Neto HV, Santos B, Melo M, et al. Aprendizagem organizacional com a sinistralidade laboral. *Int J Work Cond (RICOT Journal).* 2011;1:1-24. [Portugues]

10- Lantta T, Anttila M, Kontio R, Adams CE, Välimäki M. Violent events, ward climate and ideas for violence prevention among nurses in psychiatric wards: a focus group study. *Int J Ment Health Syst.* 2016;10(1):1-10.

11- Isara AR, Ofili AN. Prevalence of occupational accidents/Injuries among health care workers in a federal medical centre in southern Nigeria. *West Afr J Med.* 2012;31(1):47-51.

12- Obaid HAA, Eljedi A. Risk factors for the development of diabetic foot ulcers in Gaza Strip: a case-control study. *Age (Omaha).* 2015;34:34.

13- Solmaz M, Solmaz T. Experiences with needle-stick and sharp object injuries for healthcare workers in a State Hospital in Tokat Province, Turkey. *Int J Occup Hyg.* 2017;9(3):142-8.

14- Ndejjo R, Musinguzi G, Yu X, Buregyeya E, Musoke D, Wang JS, Halage AA, et al. Occupational health hazards among healthcare workers in Kampala, Uganda. *J Environ Public Health.* 2015;2015.

15- Dai L, Kloog I, Coull BA, Sparrow D, Spiro III A, Vokonas PS, et al. Cognitive function and short-term exposure to residential air temperature: A repeated measures study based on spatiotemporal estimates of temperature. *Environ Res.* 2016;150:446-51.

16- Zeydabadi A, Askari J, Vakili M, Mirmohammadi SJ, Ghovveh MA, Mehrparvar AH. The effect of industrial noise exposure on attention, reaction time, and memory. *Int Arch Occup Environ Health.* 2019;92(1):111-6.

17- Ngatu NR, Kayembe NJ, Phillips EK, Okech-Ojony J, Patou-Musumari M, Gaspard-Kibukusa M, et al. Epidemiology of ebolavirus disease (EVD) and occupational EVD in health care workers in Sub-Saharan Africa: Need for strengthened public health preparedness. *J Epidemiol.* 2017;27(10):455-61.

18- Rim KT, Lim CH. Biologically hazardous agents at work and efforts to protect workers' health: a review of recent reports. *Saf Health Work.* 2014;5(2):43-52.

19- HassanAl-Azzawi KO. The relationship between unemployment and financial policy: case study of the state of Iraq for the period (2003-2014). *PalArch's Archaeol Egypt Egyptol.* 2020;17(6):1148-61.

20- Elewa AH, El Banan SH. Occupational hazards as perceived by nursing interns and protective measures. *J Nurs Health Sci.* 2016;5(6):107-18.

- 21- Nwankwo MC. Occupational Health Hazards and Health outcomes among health workers, the determinants and compliance to safety standards in the health facilities in Kigali city [dissertation]. Rwanda; 2019.
- 22- Al-Husayn AJ, Al-Jubboori AK, Alzeyadi S, Athbi HA, Faris SH, Hashim GA, et al. Adherence to self-care managements among patients with end stage renal disease at Habib Ibn-Mudaher in Kerbala City. *Ind J Public Health Res Dev.* 2018;9(8).
- 23- Aziz TA, Amin RR, Ahmed ZA, Sleman HJ, Aziz BH. Occupational Toxicity and Health Hazards of the Healthcare Providers at Healthcare Facilities in Sulaimani City, Iraq. *Iraq J Pharmaceut Sci.* 2021;30(2):41-9.
- 24- Mahmood GAH, Hashim GA. Knowledge, attitude and practice of occupational hazard among nursing staff at teaching hospitals in Kerbala City, South-Central Iraq. *Exec Ed.* 2018;9(8):1147.
- 25- Yazie TD, Sharew GB, Abebe W. Knowledge, attitude, and practice of healthcare professionals regarding infection prevention at Gondar University referral hospital, northwest Ethiopia: a cross-sectional study. *BMC Res Notes.* 2019;12(1):563.
- 26- Abuduxike G, Vaizoglu SA, Asut O, Cali S. An assessment of the knowledge, attitude, and practice toward standard precautions among health workers from a hospital in northern cyprus. *Saf Health Work.* 2021;12(1):66-73.
- 27- Eldessouki KH, AbdelMegid AS, Gamal LM. Attentiveness, and attitude, among junior cadre doctors about Occupational Health hazards and their practice of the appropriate preventive measures in Minia governorate. *Minia J Med Res.* 2019;30(3):1-8.
- 28- Rayan HN, Adam SM, Abdrabou HM. Effect of training program regarding occupational health hazards on nurse interns' knowledge and practice. *Med Leg Updat.* 2021;21(2):606-18.
- 29- Yazie TD, Sharew GB, Abebe W. Knowledge, attitude, and practice of healthcare professionals regarding infection prevention at Gondar University referral hospital, northwest Ethiopia: a cross-sectional study. *BMC Res Notes.* 2019;12(1).
- 30- Uchenna AP, Johnbull OS, Chinonye EE, Christopher OT, Nonye AP. The knowledge, attitude, and practice of universal precaution among rural primary health care workers in Enugu southeast Nigeria. *Agu al World J Pharm Pharm Sci.* 2015;4(9):109-25.
- 31- Abuduxike G, Acar Vaizoglu S, Asut O, Cali S. An assessment of the knowledge, attitude, and practice toward standard precautions among health workers from a hospital in northern Cyprus. *Saf Health Work.* 2021;12(1):66-73.
- 32- Oliveira AC, Marziale MHP, Paiva MHRS, Lopes ACS. Knowledge and attitude regarding standard precautions in a Brazilian public emergency service: a cross-sectional study. *Revista da Escola de Enfermagem da USP.* 2009;43:313-9.
- 33- Abdellah RF, Attia SA, Fouad AM, Abdel-Halim AW. Assessment of physicians' knowledge, attitude and practices of radiation safety at Suez Canal University Hospital, Egypt. *Open J Radiol.* 2015;5(4):250.