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EVALUATION OF HEALTH CARE PROVIDER ADHERENCE TO SAFE INJECTION PRACTICE

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ABSTRACT

Purpose: *The aim is to evaluate healthcare provider adherence to safe injection practices and also to find out the relationship between healthcare providers' adherence to safe injection adherence and their demographical characteristics.*

Methods: *Descriptive analytical study was carried out with a non-probability convenient (Accidental) sampling technique. The study was carried out from February 15th, 2022 up to May 28th, 2022. The study instrument consisted of a structured questionnaire divided into 2 parts to assess awareness and practices of safe injection. The score for each question was one, two or three.*

Results: *The finding of the study show that the overall evaluation of healthcare provider adherence to safe injection practice was fair at a mean of the score (2.22). In addition, there are non-significant relationships between the nurse's safe injection practices and their demographic data at a p-value more than 0.05, except in one item (economic status) at a p-value less than 0.05.*

Conclusions: *The overall assessment of the nurses' injection practice was fair. The result of the study reveals a highly significant relationship between the nurse's economic status and their adherence to safe injection practices.*

INTRODUCTION

Injections are one of the most common types of medical treatments performed today. Injections have been a successful form of healthcare delivery for many years, both for preventative and therapeutic purposes. Usually, there are two roots of medicine administration, oral and injectable both methods are very commonly practiced in healthcare settings from diagnosis of disease to treatment and prevention of illness[8].

A huge number of reasons every year throughout the world. But its use is more common in low-resource countries. Pakistan is among the Countries where the rate of injected medicines is on the top in the world. The spread of infectious diseases through the population is receiving injectable medicine. due to different unsure injector practices has been a global concern[6]. Unsafe injection practices on the part of healthcare practitioners constitute a risk for patients as well as personnel in the healthcare industry, particularly for infectious and non-infectious adverse events. These practices are frequently related to a variety of incorrect methods and unsafe surroundings. A "safe injection" should not injure the patient, should not expose the health care practitioner to any potential risk, and should not result in hazardous waste for the community[3].

METHODOLOGY

A descriptive-analytical study was carried out to evaluation of healthcare provider adherence to safe injection practices in Al-Najaf governmental hospitals. From the period Feb. 15th, 2022 up to May 28th, 2022. Non-probability convenient (Accidental) sampling technique was used, which consist of 17 male and 13 female nurses who performed injection practices. A structured questionnaire divided into 2 parts was used to assess awareness, and practices of safe injection

Part I: Socio-demographic Characteristics: This part consists of (9) items, including gender, age, address, level of education, Experience as a nurse, experience in the current field, any training session on safe injection and economic status. **Part 11:** A 27-item questions to assess their awareness about injection safety. The score for each question was one, two, or three.

The data was collected through the application of the developed questionnaire with the aid of structured evaluation techniques with the Nurses. The data collection process started on February 15th, 2022 up until May 28th, 2022.

RESULTS AND DISCUSSION

Table (3-1): Distribution of Nurses by Their Socio-Demographic Characteristics.

		Frequency	Percent
Gender	Male	17	**56.7**
	Female	13	43.3
	Total	**40**	**100%**
Age	<= 26	16	**53.3**
	27 - 32	8	26.7
	33+	6	20.0
	Total	**40**	**100%**
Address	Urban	29	**96.7**
	Rural	1	3.3
	Total	**40**	**100%**
Economic status	Sufficient	17	**56.7**
	Insufficient	1	3.3
	Partially Sufficient	12	40.0
	Total	**40**	**100%**
Level of education	Nursing high school	7	23.3
	Diploma in Nursing	11	36.7
	BSc Nursing	12	**40.0**
	Total	**40**	**100%**
Experience as a nurse	Less than one year	11	**36.7**
	1-3 years	10	33.3
	More than 5 years	9	30.0
	Total	**40**	**100%**
experience in the current field	Less than one year	12	**40.0**
	1-3 years	10	33.3
	3-5 years	3	10.0
	More than 5 years	5	16.7
	Total	**40**	**100%**

Have you attended any training session on safe injection ?	Yes	9	30.0
	No	21	**70.0**
	Total	**40**	**100%**
the number of training / that you have attended	0	21	**70.0**
	1	2	6.7
	2	1	3.3
	3	3	10.0
	5	3	10.0
	Total	**40**	**100%**

Table (3.1), the study shows that the entire study sample (56.7%) are male. Regarding their age, the majority (53.3%) of the research samples are at the age group of(<= 26) yrs. and more. Concerning the residency the study result shows that the highest percentage (96.7%) of the study sample are lived in urban areas. Concerning socioeconomic status, about half of the sample (56.7%) reveals their economic status which is sufficient. In relation to the level of education, most of the study samples (40%) are B.S.C nursing. Regarding the experience as a nurse (36.7%) less than one year. Related to the experience in the current field, the majority of the study samples (40%) were less than one year. Search results showed that (70%) haven't attended any training sessions on safe injection. These findings were supported with the finding of the studies of Anwar et al., (2019) and Ibrahim et al., (2021)[3,5].

Table (3.2) Assessment of the Nurses' practice among Injection

		Freq.	**%**	**MS.**	**Asses.**
1-Proper hand hygiene, using alcohol-based hand rub or soap and water, and wear gloves.	Poor	26	86.7	1.23	Poor
	Fair	1	3.3		
	Good	3	10.0		
2-Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids, or contaminated equipment.	Poor	15	50.0	1.73	Fair
	Fair	8	26.7		
	Good	7	23.3		
3-Needles and syringes are used for only one patient .	Good	30	100.0	3.00	Good
4-Read the instructions, attention to the expiry date of the drug.	Poor	18	60.0	1.63	Poor
	Fair	5	16.7		
	Good	7	23.3		
5-The rubber septum on a medication vial is disinfected with alcohol prior to piercing.	Poor	29	96.7	1.07	Poor
	Good	1	3.3		
6-Breaking away from your body, use a snapping motion to break off the top of the ampule along the scored line at its neck. Always break away from your body.	Poor	9	30.0	2.07	Fair
	Fair	10	33.3		
	Good	11	36.7		
7-Insert the tip of the needle into the ampule, which is upright on a fat surface, and withdraw fluid into the syringe.	Poor	14	46.7	1.97	Fair
	Fair	3	10.0		
	Good	13	43.3		
8-Insert the tip of the needle into the ampule and invert the ampule.	Poor	5	16.7	2.37	Good
	Fair	9	30.0		
	Good	16	53.3		

9- Keep the needle centered and not touching the sides of the ampule. Withdraw fluid into syringe. Touch the plunger only at the knob.	Poor	4	13.3	2.60	Good
	Fair	4	13.3		
	Good	22	73.3		
10-Wait until the needle has been withdrawn to tap the syringe and expel the air carefully by pushing on the plunger.	Poor	1	3.3	2.80	Good
	Fair	4	13.3		
	Good	25	83.3		
11-Check the amount of medication in the syringe with the medication dose and discard any surplus, according to prescription.	Poor	4	13.3	2.47	Good
	Fair	8	26.7		
	Good	18	60.0		
12-Medication vials are entered with a new needle and a new syringe.	Poor	16	53.3	1.93	Fair
	Good	14	46.7		
13-Single-dose or single-use medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.	Poor	4	13.3	2.43	Good
	Fair	9	30.0		
	Good	17	56.7		
14-Medication administration tubing and connectors are used for only one patient.	Poor	5	16.7	2.47	Good
	Fair	6	20.0		
	Good	19	63.3		
15-Multi-dose vials are dated by healthcare when they are first opened	Poor	13	43.3	2.07	Fair
	Fair	2	6.7		
	Good	15	50.0		
16-Multi-dose vials to be used for more than one patient are kept in a centralized medication area.	Poor	13	43.3	1.97	Fair
	Fair	5	16.7		
	Good	12	40.0		
17-Places safety box and cotton swabs (optional) within arm's reach.	Poor	5	16.7	2.40	Good
	Fair	8	26.7		
	Good	17	56.7		
18-Selects the injection site as prescribed medications (and cleans the site)	Poor	1	3.3	2.80	Good
	Fair	4	13.3		
	Good	25	83.3		
19-Opens the non-injected pouch by tearing the notch.	Poor	1	3.3	2.77	Good
	Fair	5	16.7		
	Good	24	80.0		
20-Pinches or punches the "skin" as the patient’s obesity .	Poor	12	40.0	2.03	Fair
	Fair	5	16.7		
	Good	13	43.3		
21-Holds the port of the non-inject while inserting the needle.	Poor	7	23.3	2.30	Fair
	Fair	7	23.3		
	Good	16	53.3		
22-Inserts the needle into the tent of "skin' between the thumb and forefinger.	Poor	9	30.0	2.17	Fair
	Fair	7	23.3		
	Good	14	46.7		
23-Inserts the needle based on prescribed route.	Fair	3	10.0	2.90	Good
	Good	27	90.0		

24-Moves fingers from the port to the reservoir while still pinching the skin.	Poor	6	20.0	2.37	Good
	Fair	7	23.3		
	Good	17	56.7		
25-Removes the non-inject from the injection site.	Poor	1	3.3	2.87	Good
	Fair	2	6.7		
	Good	27	90.0		
26-Releases the fingers used to pinch the skin and create the tent.	Poor	6	20.0	2.40	Good
	Fair	6	20.0		
	Good	18	60.0		
27-Places the used non-inject immediately into a safety box without replacing the needle shield.	Fair	10	33.3	2.67	Good
	Good	20	66.7		

Table (4.3) Overall Assessment of the Nurses' practice among Injection

	Frequency	Percent	MS.	Asses.
Poor	0	0	2.28	Fair
Fair	19	63.3		
Good	11	36.7		

Freq: Frequency; MS: Mean of Scores ; Low : MS = 1-1.66 ; Fair : MS = 1.67-2.33 ; High : MS ≥ 2.34 .

Depending on Tables (3-2) and (3-3) The overall evaluation of healthcare provider adherence to safe injection practice was fair. this result matched with the study finding of Ali and Eldessouki, (2022) that represented the majority of study participants had a good awareness about safe injection practices[2]. as well as these findings linked with the result of Anwar et al., (2019) and Birhanu et al., (2019) they found in their study the majority of study sample practices and awareness regarding safe injection was good[3,4], in addition to Van Tuong, et al., 2017 and Ismail, et al., (2014), they emphases in their study that the most of study subject have a high level of knowledge related to the safety of injection procedure[6,7], despite Zakar, et al., (2013), the stated in their study that the most of study respondent were not scientifically qualified or trained among providing parenteral medication. This means they have poor knowledge about safe injection[8].

Table (3.4) ANOVA table for the relationship between the Injection practice overall scores and Nurses' demographic data.

		Mean	**SD.**	**F**	**Sig.**
Gender	Male	2.30	.25	0.34	0.56
	Female	2.25	.29		
Age	<= 26	2.26	.28	0.33	0.72
	27 - 32	2.34	.25		
	33+	2.24	.24		
Address	Urban	2.27	.26	1.94	0.17
	Rural	2.63	.		
Economic status	Sufficient	2.20	.24	5.02	**0.01***
	Insufficient	1.85	.		
	partially sufficient	2.42	.22		
Level of education	Nursing high school	2.13	.26	1.55	0.23
	Diploma in Nursing	2.34	.22		
	BSc Nursing	2.30	.28		

Experience as a nurse	Less than one year	2.23	.31	0.79	0.46
	1-3 years	2.36	.26		
	More than 5 years	2.24	.19		
experience in the current field	Less than one year	2.25	.30	0.13	0.94
	1-3 years	2.31	.26		
	3-5 years	2.33	.21		
	More than 5 years	2.25	.25		
Have you attended any training session on safe injection?	Yes	2.26	.29	0.07	0.80
	No	2.29	.26		
the number of training / that you have attended	0	2.29	.26	0.65	0.63
	1	2.28	.39		
	2	2.30	.		
	3	2.07	.19		
	5	2.42	.35		

According to the above table, the result show there were non-significant relationship between the overall evaluation of health care provider adherence to safe injection practice with their demographical data except in one item (Economic status) there was high significant relationship at p-value less than 0.05. this finding was supported by the study result of Ibrahim et al ., (2021) and Al Awaidy, et al., 2019 that represented there was high significant association between the nurses student knowledge and safe injection practices with their socioeconomic status at a p-value less than 0.05[5,1].

Ali and Eldessouki, (2022) they reported in their study there is no significant association between (living in urban or rural residential areas and years of experience) and injection safety[2]. Moreover, Van Tuong, et al., 2017 reported in their study there is a significant relationship between safe injection practices and (young age nurses, years of experience <10 and training in correct injection technique) but no significant relation with nurses qualifications[7].

CONCLUSION

The findings of our research suggest that the procedures for administering injections in all types of medical institutions are not as safe as they need to be and, as a result, can contribute to the propagation of infectious diseases. The overall assessment of the nurses' injection practice was fair. The result of the study represents a highly significant relationship between the nurse's economic status and their adherence to safe injection practices. All hospitals should have infection control policies and protocols, including safe injection techniques and waste disposal. All healthcare personnel should receive training on infection control, including safe injections. All healthcare personnel should be vaccinated against Hepatitis B. Safe injection supplies must be provided.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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