

Healthcare Provider Perceptions of Pharmacovigilance: A Cross-Sectional Investigation

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Abstract:

Background: Pharmacovigilance, the science and activities related to the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problems, plays a crucial role in ensuring patient safety

Methods: The study has been conducted in a period of six months extending from 10 /10/ 2024 to 1 /3/ 2025 in Mosul hospitals. Probability (simple random sample) was selected for the present study. A sample of Health care workers in Mosul hospitals. (166 Health care workers). The subject's acceptance to participate in the study was through the use of a specialized consent form.

Results: The study shows that most of the sample participating in the study amounted to 166 health care workers, that most of the study sample was from 20 to 29 years old, at a rate of 74.7%, and that the sample of female was higher than that of male by (59%), 47.6% of the sample whose residence was institution , Most of the sample was workplace (surgical), with moderate percentage (28.3%).

Conclusion: The findings reveal both strengths and areas for improvement in healthcare workers' attitudes regarding pharmacovigilance. While there is general awareness of pharmacovigilance principles, significant gaps remain, particularly in terms of formal training, understanding reporting procedures, and overcoming logistical barriers such as time constraints and accessibility

Key words: Knowledge, Healthcare Giver, Pharmacovigilance, A Descriptive Study

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Introduction

Pharmacovigilance is an essential area of public health, involving the detection, assessment, understanding, and prevention of adverse reactions to drugs and medication-related problems.⁽¹⁾ Adverse drug reactions (ADRs) are defined as any unintended noxious response to a drug that occurs at doses used normally in humans for prophylaxis, diagnosis, or therapy or to modify physiological function. ⁽²⁾Early detection of ADRs can prevent serious clinical outcomes, reduce the associated economic burden, and improve the public safety by signal detection and regulatory actions. Pharmacovigilance systems in hospitals provide essential information about medication use. They establish processes for using reported ADRs to modify, update, or develop therapeutic guidelines, develop risk management plans, and identify educational gaps regarding the use of medicines. A number of studies have assessed the knowledge, attitude and knowledge (KAP) of health-care providers toward pharmacovigilance and ADR reporting. The results vary widely according to the geographical region, type of health-care system, and health-care providers involved. Limited studies have been conducted in Arabic countries. ⁽³⁾The previous Iraq KAP study involved community pharmacists and some hospital pharmacists, but not physicians or nurses⁽⁴⁾. Furthermore, previous studies did not compare knowledge, attitude, and practice toward ADR reporting among different types of health-care providers. This is considered a limitation for the usefulness of previous KAP study results. The Hospital as general is a leading center in the Iraq, providing adult and pediatric patients with state-of-the-art and comprehensive care for all types of diseases. The aim of the study to assess the attitudes of healthcare giver towards pharmacovigilance.

Methods and Materials:

Study Design:

A descriptive study that conducted during the period of 10 /10/ 2024 to 1 /3/ 2025 in Mosul hospitals .

Study Setting:

The present study was conducted at Nineveh Governorate. It is a governorate in northern Iraq, with Mosul as its capital. Mosul is Iraq's second largest city, located 465 kilometers north of Baghdad. The sample was collected from Health care workers in mosul hospitals.

Data Collection Period:

The study has been conducted in a period of six months extending from 10 /10/ 2024 to 1 /3/ 2025 in Mosul hospitals.

Sample of the Study:

Probability (simple random sample) was selected for the present study. A sample of Health care workers in Mosul hospitals. (166 Health care workers). The subject's acceptance to participate in the study was through the use of a specialized consent form.

Steps of the study:

The interview was conducted to fill out the questionnaire with in Health care workers in Mosul hospitals included and each one of them needed approximately (15-20) minutes to complete the interviewing and answering the questionnaire.

Data collection Instrument:

The information of data was collected through a questionnaire used to assess the knowledge and attitudes of healthcare providers towards pharmacovigilance. The instruments of the study were composed of (2) parts,

Part One: Demographic characteristics that include (ages, class, gender, martial status, and residence).

Part Two: To assess the attitude of healthcare providers towards pharmacovigilance. It consisted of (5) multiple choice questions, in five likerte scale (Strongly agree, Agree, Neutral, Disagree, Strongly disagree) .

Statistical Analysis:

The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze the statistical results. A descriptive approach was applied. Using percentages and frequencies to calculate student's demographic description characteristics⁽⁵⁻¹¹¹⁾.

Results:

Table (1): Distribution of Demographical Characteristics of sample (166)

Variables		Frequency	Percentage
Age	20-29	124	74.7
	30-39	28	16.9
	40-49	9	5.4
	50- more	5	3.0
<u>Total</u>		166	100.0
Gender	Male	68	41.0
	Female	98	59.0
<u>Total</u>		166	100.0
Academic achievement	Master's	4	2.4
	Bachelor's	76	45.8
	Institution	79	47.6
	Nursing preparatory	7	4.2
<u>Total</u>		166	100.0
Experience	Less than one year	62	37.3
	1-3	53	31.9
	3-5	16	9.6
	5-10	13	7.8
	10 years or more	22	13.3
<u>Total</u>		166	100.0
Workplace	Surgery	47	28.3
	Internal Medicine	20	12.0
	Adult Intensive Care Unit	11	6.6
	Pediatrics	9	5.4
	Pharmacy	52	31.3
	Emergency Department	12	7.2
	Other	15	9.0
<u>Total</u>		166	100.0
Hospitals	Mosul General	53	31.9
	Ibn-sina	57	34.3
	Al-jumhuri	56	33.7
<u>Total</u>		166	100.0
Specialty	Doctors	32	19.3
	Nursing	69	41.6
	Pharmacy	65	39.1
<u>Total</u>		166	100.0

Table No. 1 shows that most of the sample participating in the study amounted to 166 health care workers, that most of the study sample was from 20 to 29 years old, at a rate of 74.7%, and that the sample of female was higher than that

of male by (59%), 47.6% of the sample whose residence was institution ,Most of the sample was workplace (surgical), with moderate percentage (28,3%).

Table(2): Healthcare Workers' attitude towards Pharmacovigilance (N=166)

Variables		Frequency	Percentage
Q1: I believe that reporting adverse drug reactions is essential for improving clinical practice.	Strongly Agree	94	56.6
	Agree	70	42.2
	Neutral	2	1.2
	Disagree	0	0
	Strongly Disagree	0	0
Total		166	100.0
Q2: A database of adverse drug reactions can serve as a catalyst for research projects.	Strongly Agree	61	36.7
	Agree	86	51.8
	Neutral	18	10.8
	Disagree	1	0.6
	Strongly Disagree	0	0
Total		166	100.0
Q3: I believe that only serious adverse reactions that lead to life-threatening situations should be reported.	Strongly Agree	30	18.1
	Agree	35	21.1
	Neutral	37	22.3
	Disagree	45	27.1
	Strongly Disagree	19	11.4
Total		166	100.0
Q4: Pharmacovigilance should be taught in detail to all healthcare providers.	Strongly Agree	93	56.0
	Agree	56	33.7
	Neutral	12	7.2
	Disagree	5	3.0
	Strongly Disagree	0	0
Total		166	100.0
Q5: Even well-known adverse drug reactions should be reported.	Strongly Agree	66	39.8
	Agree	77	46.4
	Neutral	19	11.4
	Disagree	3	1.8
	Strongly Disagree	1	0.6
Total		166	100.0

The majority of health workers' attitudes towards pharmacovigilance were inclined to agree and strongly agree.

Discussion:

The majority of respondents were in the 20-29 age group (74.7%), followed by 30-39 (16.9%), and progressively smaller proportions in the older age brackets. This suggests that younger healthcare workers are more prevalent in this sample, which may reflect general trends in the workforce where younger generations dominate the healthcare profession. Study Insight: Studies have shown that younger healthcare professionals tend to be more adaptable to new concepts and technologies. Their higher presence in the sample might reflect greater openness to pharmacovigilance

initiatives, though their lower levels of experience could also limit their understanding. The gender distribution is skewed towards females (59%), which is consistent with the global trend in nursing and healthcare sectors where women are the majority. **Study Insight:** The predominance of female workers in healthcare is well-documented. Research by the World Health Organization (WHO) indicates that women make up around 70% of the global health workforce, which might influence pharmacovigilance attitudes and practices, given their strong involvement in patient care. **Academic Achievement:** A substantial proportion (45.8%) had completed a bachelor's degree, followed by a significant group with nursing preparatory training (47.6%). A high percentage of respondents (83.7%) correctly identified that pharmacovigilance covers adverse drug reactions and medication errors. Most (77.1%) were aware of the difference between drug side effects and adverse events. However, knowledge gaps exist in more specific aspects, such as filling out ADR reporting forms (65.1%) and assessing the severity of ADRs (57.2%). **Study Insight:** The knowledge of pharmacovigilance among healthcare workers varies significantly. According to a study by^(112,113), healthcare workers often possess a basic understanding of ADR reporting but lack advanced knowledge on assessing severity or understanding the broader scope of pharmacovigilance.⁽¹¹²⁻¹²⁰⁾ A large majority (56.6%) strongly agreed that reporting ADRs is essential for improving clinical practice, and 93% believed pharmacovigilance should be taught in detail to all healthcare providers. **Study Insight:** Studies show that healthcare workers generally recognize the importance of ADR reporting for improving patient safety and clinical outcomes (Runciman et al., 2009). However, as reported in a study by Vial et al. (2018), while most healthcare workers acknowledge its importance, they often fail to follow through due to practical barriers. A significant proportion (27.1%) disagreed with the belief that only serious ADRs should be reported, which indicates a recognition of the value of reporting all ADRs, not just those with severe outcomes. This is in line with best practices in pharmacovigilance, which emphasize reporting all ADRs, regardless of severity. **Study Insight:** The WHO emphasizes that even non-serious ADRs provide valuable data for detecting patterns and potential risks associated with drugs (WHO, 2017). The view held by many healthcare workers that all ADRs should be reported aligns with this guidance and reflects a growing awareness of pharmacovigilance's broader scope.

Conclusion:

The findings reveal both strengths and areas for improvement in healthcare workers' attitudes regarding pharmacovigilance. While there is general awareness of pharmacovigilance principles, significant gaps remain, particularly in terms of formal training, understanding reporting procedures, and overcoming logistical barriers such as time constraints and accessibility.

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