

Short Communication

Evaluation of knowledge, attitude and practice of pharmacovigilance among Libyan healthcare professionals

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Abstract

The aim of this study was to evaluate the knowledge, attitude and practice of pharmacovigilance by healthcare professionals in Benghazi. A structured questionnaire adopted from previous validated study. One hundred questionnaires were distributed in August 2019 and filled by healthcare providers worked at different hospitals in Benghazi, Libya. Participants were 57% physicians and 43% pharmacists (age average 31-40 years). 47% had correctly defined Pharmacovigilance while 19% know what is meant by adverse drug reactions. Moreover, 61% of the participants did not share information about raising adverse drug reactions in some patients with other healthcare professionals. 35% of them did not know about the adverse drug reactions reporting system in Libya. Whereas, 42% have strongly agreed that reporting adverse drug reactions is essential. 41% and 45% of participants believed that reporting adverse drug reactions is not time-consuming and increases patient safety, respectively. In conclusion, educational programs and training courses about the importance of Pharmacovigilance for physicians and pharmacists in Benghazi are needed.

Keywords: Adverse drug reactions, Benghazi, health education, healthcare professional, Libya, pharmacovigilance

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Introduction

Several previous studies have revealed that one of the major health problems are drug related morbidity and mortality. Therefore, patient safety is an important concern of the healthcare institutions and providers [1-4]. To obtain and maintain drug safety, adverse drug reactions (ADRs), which are undesirable or unpredictable effects that caused by the medication at normal dose, should be reported [5]. As a result, pharmacovigilance centers have been developed in different countries [6]. In 2015, the Libyan Pharmacovigilance Department was established [7]; however, there is no active pharmacovigilance programs available in Benghazi, or in any other regions of Libya. Continuous reporting of ADRs to drug authorities are

challenging even in developed countries like Canada and USA [8]. Many reasons were behind the limitations in reporting ADRS such as lack of time, difficulties in linking the adverse events to the medications and unavailability of reporting forms [9-11]. As the resources are limited, the need for knowledgeable and trained pharmacovigilance specialists continues to grow. Thus, the aim of this study was to evaluate the knowledge, attitude and practice of pharmacovigilance of the healthcare professionals in Benghazi city.

Materials and Methods*Demographic data*

A cross sectional study was conducted in Benin, Libya. A structured self-administered questionnaire adopted

from previous study was used [12]. One hundred questionnaires were distributed in August 2019 and filled by physicians and pharmacists worked in different hospitals in Benghazi including Benghazi Medical Center (BMC). The participation in this study was entirely voluntary. Twenty-six of them were rejected due to uncompleted information. A statistical descriptive was performed using Statistical Package for Social Sciences (SPSS) software package version 20 (SPSS, Inc., Chicago, IL, USA).

Results and Discussion

Demographic data

In total, one hundred questionnaires were distributed; the response rate was 74% (n = 74), 57% of them were physicians and 43% were pharmacists. As shown, the number of participated pharmacists were higher than physicians, which were comparable to the earlier published study in Saudi and raise the question of the pharmacist's role in the health care system [12]. The majority (57%) were at age 30 -40 years old and only one percent of respondents was at age between 50-60 years old. In addition, 68% of participants have a permanent job at public hospital as in **Table 1**.

Knowledge of pharmacovigilance

The majority of 47.3% of participants defined pharmacovigilance correctly. However, 18.9% knew the definition of ADRs. Interestingly, 66.7% and 71.4% of who answered correctly to both questions, respectively, were physicians. Compared to other study conducted in Saudi Arabia where pharmacists and pharmacists' techniques scored the highest percent of the awareness of pharmacovigilance system [13].

Pharmacists in Benghazi city need more educational programs to introduce the concept of pharmacovigilance. In addition, another study in Yemen [14] showed that physicians and nurses showed a varied significant knowledge regarding pharmacovigilance and ADRs.

On the other hand, 53% of the responders did not have enough information about any drug that has been drawn from the Libyan markets because of its serious side effects. Moreover, 61% of participants did not share any information about raising ADRs in some patients with other healthcare professionals. 82% of the participants were not aware about any formal ADRs reporting system in other countries. However, 48% of the participants selected renal failure as a major risk factor for the occurrence of maximum ADR. This shows that

pharmacists and physicians can recognize the risk factors (**Figure 1**).

Table 1: General distribution of the participants who completed the questionnaire (n = 74)

| Demographic Features | Categories | Total in percentage |
|----------------------|-------------|---------------------|
| Age | 21-30 years | 37.84 |
| | 31-40 years | 56.76 |
| | 40-50 years | 4.05 |
| | 51-60 years | 1.35 |
| Gender | Male | 25.68 |
| | Female | 74.32 |
| Specialty | Physician | 56.76 |
| | Pharmacist | 43.24 |
| Nature of Job | Permanent | 67.57 |
| | Temporary | 32.43 |
| Hospital Category | Public | 67.57 |
| | Private | 32.43 |

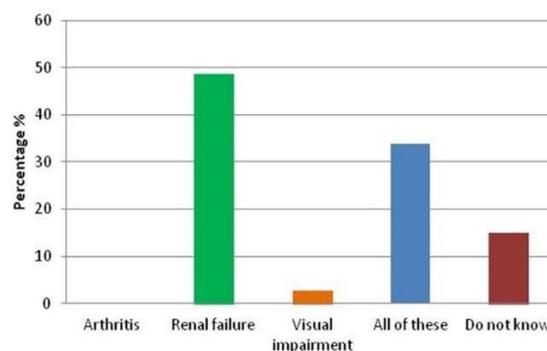


Figure 1: Risk factor for the occurrence of maximum ADRs

In **Figure 2**, approximately 35% of healthcare professionals did not know about ADRs reporting system in Libya. Compared to other published study, 39% of Saudis health professionals were not aware about pharmacovigilance system [13].

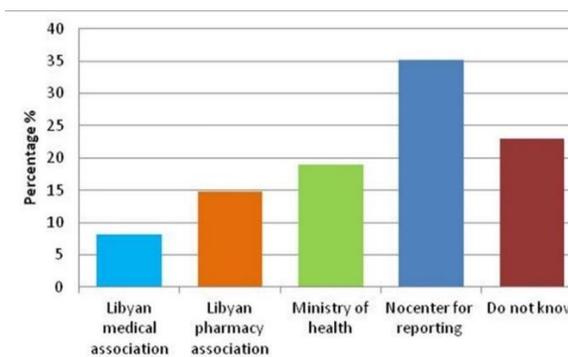


Figure 2: Place where respondents report ADR

Furthermore, 79% of the participants did not know about WHO online database for reporting of ADRs. Several previous studies have reported that health professionals among developed and developing countries did not have enough knowledge about reporting of ADRs [14].

However, 31% of the respondents collected information regarding ADRs of a new drug from the internet, while 44.5% of the respondent used vary data resources beside internet which did not explain the poor knowledge of participants as in **Figure 3**.

According to the current results, participants had very poor knowledge and attitude regarding ADR reporting activities such as lack of awareness of any formal reporting system, sharing information about ADRs, types of ADRs, the WHO online database for reporting ADRs or knowledge of the location of the ADRs monitoring center internationally, regional or in Libya.

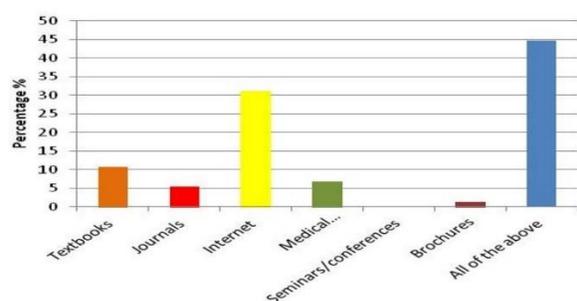


Figure 3: Sources of information about ADRs to new drugs

The findings are in accordance with other previous studies which revealed that healthcare professionals have lack of knowledge about pharmacovigilance and ADRs reporting [12, 14, 15]. Although the role of pharmacists is critical in ADR reporting, the majority (48.6%) answered that physicians, pharmacists and nurses are equally responsible for reporting adverse drug reaction in the hospital (**Figure 4**).

This outcome was in agreement with Agyalidis [16] who discuss the importance of pharmacovigilance in healthcare practice where continuous improving in education, training and awareness of all the involved stakeholders including healthcare professionals is necessary.

Attitude toward pharmacovigilance

About 40% of participants had strongly agreed that reporting of ADRs is essential. 41% and 45% of the participants have strongly believed that reporting of ADRs is not time consuming and it increases patient

safety, respectively. These findings showed that healthcare professionals in Benghazi have a positive attitude and awareness regarding implanting and importance of the pharmacovigilance and ADRs reporting in hospitals (**Table 2**).

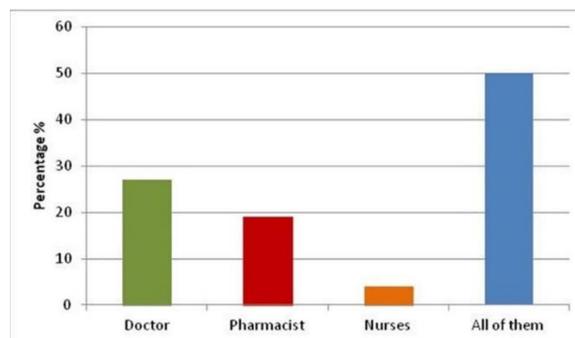


Figure 4: Professional responsible for reporting ADR

This was similar to other studies in developing countries where physicians and pharmacists are willing to update the health care system to increase the patients' safety [12, 14, 15].

Table 2: Respondents' attitude towards ADR reporting

| Queries | SA | A | D | SD |
|---|-------|-------|-------|-------|
| ADR reporting is necessary | 41.89 | 50.00 | 5.41 | 2.70 |
| ADR reporting should be mandatory | 28.38 | 60.81 | 5.41 | 5.41 |
| ADR reporting increase patient's safety | 44.59 | 43.24 | 6.76 | 5.41 |
| ADR reporting is time consuming | 9.46 | 31.08 | 40.54 | 18.92 |

SA=Strongly Agree, A= Agree, D= Disagree, SD= strongly Disagree

The findings of this study showed that healthcare experts in Benghazi had poor knowledge regarding ADR reporting system.

The Libyan Pharmacovigilance Department should focus on providing training programs for experts to be well-trained and knowledgeable healthcare professionals about pharmacovigilance activities including ADR reporting and preparing periodic safety update reports.

However, one of the limitations of this study is small sample size. Therefore, a larger sample must be considered in future exploration. Furthermore, nurses and pharmacists' technicians should be included in the sample as they are important part of the healthcare

practice at Libyan hospitals. In addition, pharmacovigilance should be considered in the academic education of healthcare sciences students.

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Declaration of Competing Interest

The authors declare no competing financial interests.

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