Assessment of the Adequacy of Pharmaceutical Services the Provision in Primary Health Care Centers

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Abstract

Background: Changes in the national health care system, particularly the implementation of managed care and integrated health systems, promote the adoption of primary care as a means of meeting basic health care needs and managing access to specialty services. **Materials and Methods**: This is cross-sectional study conducted at 23 randomly selected (multistage random sampling) primary health care centers in Babylon governorate. Data were collected during the period starting (November 2020- January 2021). **Result:**This study demonstrates that 47.8% of the health centers had a fair score regarding the amount of medicines according to actual need, and the availability of medications according to the basic list. While there are three indicators that had a full score (100%) for the presence of an administrative order for the responsible pharmacist and his assistant, and writing the patient's name and sex on the prescription. **Conclusion:** The current study shows there are clear deficiencies in some standards (such as pharmacist assistant), and furniture (such as computer).

Keywords: *adequacy; pharmaceutical services; provision; primary health care centers*

Introduction

Primary health care has been reoriented to prioritize health promotion, disease prevention and chronic disease management as the first stage of communication with the health system for many people[1]. Inter-professional models are evolving to solve the difficulty of accessing primary health care. By performing a growing range of roles and obligations, pharmacists are playing an increasing role in primary health care reform[2].

The timely employment of the right people with appropriate expertise at the right time and place depends on high-quality, effective health services[3].Medicines have been regarded as priorities for achieving this right since the creation of the World Health Organization (WHO), the constitution of which acknowledges the enjoyment of the highest attainable quality of health as a fundamental right of human beings. The introduction of the idea of basic medicines (EM) was over thirty years ago, in 1977, and shortly afterward, in 1978, at the World Conference on Primary Health Care in Alma Ata, EM was considered one of the eight elements required to achieve the aim of health for all[4].Given the ever-growing demand and time constraints on primary care services, creative use and delegated extended positions of patient care extenders in primary care are crucial for better patient results [5678].

Aim of the Study: To assess the adequacy of pharmaceutical services the provision in primary health care centers in Babylon Governorate.

Materials and Methods

This is a cross-sectional study conducted in 23 randomly selected health centers (multi-stage random sampling) in Babylon Governorate. The number of primary health care centers in Babylon Governorate is 46 centers distributed in 5 primary health care sectors. Randomly take 23 centers (50% of the total) by using multi-stage sampling technique from all sectors and then randomly take them from each sector according to the sector aggregation map.

Data collection technique: The data were collected through a questionnaire developed by the

Iraqi Ministry of Health and approved in this study. This questionnairerepresent the minimum standards for the quality of primary health care services. It contains evaluation criteria for all units and programs in primary health care centers.

Statistical Analysis

Data were analyzed using the available statistical package from SPSS-25 (Statistical Package for Social Sciences-Edition 25). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum and maximum values).

Result

Assessment of Administrative indicators of Pharmacy unit

Table 1: the current study showed that 69.6% of PHCCs had a score good regarding the presence of pharmacists according to the standard, and only 17.4% of the health centers had pharmacist assistants according to the standard. Well as 95.7% of the study centers had a valid refrigerator and frozen for vaccines. There is one indicator that had a full score (100%) for Providing a valid refrigerator for drugs. While most other indicators had acceptable scores.

Table 1 Assessment of Administrative indicators of Pharmacy unit

Administrative indicators of Pharmacy unit	Poor (0) (<50%)		Fair (1) (50%-79%)		Good (2) (=>80%)	
The staffs	No	%	No	%	No	%
pharmacist according to the standard, by matching the actual structure with the standard (pharmacist / 20,000 people)	-	-	7	30.4	16	69.6
pharmacist assistant according to the standard (1/20000 people)	16	69.6	3	13.0	4	17.4
Pharmacy rooms						
The presence of an organized pharmacy room (storing and displaying medicines)	2	8.7	1	4.3	20	87.0
The presence of a store with an appropriate space for storing medicines	4	17.4	3	13.0	16	69.6
The pharmacy and drug store are clean and there are no unpleasant odors.	-	-	4	17.4	19	82.6
Furniture						
The presence of a computer in the pharmacy.	12	52.2	-	-	11	47.8
Providing well-glazed cupboards with a minimum of 10 wheels.	-	-	9	39.1	14	60.9
Providing a valid refrigerator for drugs.	-	-	-	-	23	100.0
Providing a valid refrigerator for vaccines.	1	4.3			22	95.7
Providing a valid frozen for vaccines.	-	-	1	4.3	22	95.7
Air-conditioning and ventilation with thermometers to measure temperature from 23-25 and humidity not exceeding 60% with a vacuum	-	-	3	13.0	20	87.0
There are no exposed electrical points or routes in the pharmacy and the store.	1	4.3	3	13.0	19	82.6

Assessment of the drugs indicators

Table 2: This study demonstrates that 47.8% of the health centers had a fair score regarding the number of medicines according to actual need, and the availability of medications according to the basic list. While 87.0% of PHCCs had a good score for the presence of a valid form to document the physical changes of medicines and medical supplies and Availability of oral fluids (dextrolate). Also, 73.9% of the study centers had a good score regarding the presence of expired medicines, and the existence of drugs that are running out.

Table 2: Assessment of the drugs indicators

The Drugs Indicators	Poor (0) (<50%)		Fair (1) (50%-79%)		Good (2) (=>80%)	
	No	%	No	%	No	%
number of medicines according to actual need	-	-	11	47.8	12	52.2
The presence of an updated list of essential drugs in the pharmacy and all rooms of the medical units	8	34.8	-	-	15	65.2
The availability of medications according to the attached (basic) list.	1	4.3	11	47.8	11	47.8
Presence of expired medicines (Presence of an Administrative Order in Medicines)	6	26.1	-	-	17	73.9
Presence of drugs that are running out (the presence of an administrative order with medications)	6	26.1	-	-	17	73.9
The presence of redundant medicines (the presence of an administrative order in the medicines)	7	30.4	-	-	16	69.6
The presence of a valid form to document the physical changes of medicines and medical supplies.	-	-	3	13.0	20	87.0
Availability of oral fluids (dextrolate)	-	-	3	13.0	20	87.0
Zinc tablets are available to treat diarrhea in children under five	7	30.4	5	21.7	11	47.8

Assessment of Pharmaceutical documentation and Pharmacist guidelines

Table 3: there are three indicators that had a full score (100%) for the presence of an administrative order for the responsible pharmacist and his assistant, and writing the patient's name and sex on the prescription. well as 95.7% of PHCCs had a good score regarding the presence of an administrative order of joint liability for all (staff) employees of the pharmacy, daily drugs deportation by reviewing the records for a month, and the presence of the dischargerecord(administrative order + pagination with the stamp of each page). While most other indicators had acceptable score.

Table 3: Assessment of Pharmaceutical documentation and Pharmacistguidelines

Pharmaceutical Documentation andPharmacist Guidelines	Poor (0) (<50%)		Fair (1) (50%-79%)		Good (2) (=>80%)	
	No	%	No	%	No	%
The presence of an administrative order for the responsible pharmacist and his assistant	-	-	-	-	23	100.0
The presence of an administrative order of joint liability for all (staff) employees of the pharmacy.	1	4.3	-	-	22	95.7
daily drugs deportation by reviewing the records for a month	-	-	1	4.3	22	95.7
Record of discharge (administrative order + pagination with the stamp of each page).	1	4.3	-	-	22	95.7
prescription						
patient's name	-	-	-	-	23	100.0
Age	1	4.3			22	95.7
Sex	-	-	-	-	23	100.0
Diagnosis	1	4.3	-	-	22	95.7
type of treatment clearly.	2	8.7	-	-	21	91.3
dosage and method of administration	2	8.7	-	-	21	91.3
Doctor's name, signature, date and doctor's seal	2	8.7	-	-	21	91.3
Pharmacist guidelines						
The number of cases that the pharmacist instructs for the patient on how to use the drug, the duration of treatment, and the like (before or after eating) after receiving the drug by the pharmacy marked with it by Marker (by observation) not less than 100%	-	-	2	8.7	21	91.3
Availability of bags for treatment and delivery to the patient.	7	30.4	2	8.7	14	60.9

Assessment of Significance signs and order of the pharmacy

Table 4: There are indicators that had a full evaluating score (100%) regarding the presence of significance sign for the medicines in each cupboard containing all the information (the name of the medicine and the expiration date), arranging the medications according to the method FEFO (Frist Expire First Out), arranging the medications according to the direction of the arrow on the box, the height of the stored medicine boxes not exceeding 2.5 m, the existence of a committee for sudden inventory by administrative order, the presence of sudden inventory record, the existence of a sustainable register and contains all the information, the sudden inventory record with the director of the health center. As for other indicators the majority of the health centers had good scores.

Table 4: Assessment of Significance signs and order of the pharmacy

Significance Signs and Order of the pharmacy	Poor (0) (<50%)		Fair (1) (50%-79%)		Good (2) (=>80%)	
	No	%	No	%	No	%
The presence of the significance signs for the medicines in each cupboard containing all the information (the name of the medicine and the expiration date)	-	-	-	-	23	100.0
Arranging the medications according to the method: -FEFO (Frist Expire First Out)	-	-	-	-	23	100.0
Availability of a sufficient number of platforms not less than 10 cm high	-	-	1	4.3	22	95.7
The distance between the walls and the medicine boxes kept 15-30 cm in the store.	-	-	7	30.4	16	69.6
Arranging the medications according to the direction of the arrow on the box	-	-	-	-	23	100.0
The height of the stored medicine boxes not exceeding 2.5 m	-	-	-	-	23	100.0
Separating and isolating the damaged, expired, or discontinued stock in a suitable and specific place from the rest of the materials, and significance signs shall be placed, according to the case, on which all the details of the material are affixed in the same store in the event that an isolated store is not available.	3	13.0	1	4.3	19	82.6
Fire extinguishers are available, valid, and handy, and personnel knows how to use them.	-	-	2	8.7	21	91.3
the presence of a smoke detector.	8	34.8	-	-	15	65.2
Not to store medicines near electrical points	1	4.3	5	21.7	17	73.9
Matching the received medicines with the receiving documents	1	4.3	2	8.7	20	87.0
The existence of a committee for sudden inventory by administrative order	-	-	-	-	23	100.0
the presence of sudden inventory record	-	-	-	-	23	100.0
the existence of a sustainable register and contains all the information	-	-	-	-	23	100.0
the sudden inventory record with the director of the health center	-	-	-	-	23	100.0

Discussion

Regarding the presence of pharmacists according to standards, the study showed that 69.6% of PHCCs were good. This result is in agreement with the finding of a previous study done in Shimla District, India [9]which found that more than half of community health centers had a good score for the presence of pharmacists according to standards. While these results differed from the results of a previous study done in Rajasthan state [10] which found that 89.5% of PHCCs had no pharmacists according to standards.

The results of this study indicated that 69.6% of PHCCs had a good score for the presence of a store with an appropriate space for storing medicines. This result is in agreement with the finding of a study done in Nigeria [11] which found that 90% of facilities had store with an appropriate space for storing medicines. As for arranging the medications according to the method (Frist Expire First Out), the study found that the score was good for all PHCCs (100%). This result differs from some published studies conducted in Nigeria [12] which demonstrated that 68.5% of PHCs were poor in terms of arranging the medications according to the method (Frist Expire First Out) in pharmacy unit.

The study demonstrated that only 47.8% of the centers were good for the availability of medications according to the basic list. This result is in agreement with the finding of a previous study conducted in Nigeria [12] and also, another study in Nigeria [13] which showed that (50.7% and 49%) of the study samples respectively were good for the availability of medications according to the basic.

About 52.2% of PHCCs had a good score regarding the quantities of medicines according to actual need. This result disagrees when compared with the previous study done in south-east Nigeria [14]which found that all PHCCs (100%) had no sufficient number of essential drugs. All PHCCs had a full evaluating score (100%) regarding the existence of a sustainable register of the drugs and contains all the information. This result is in agreement with the finding of a study done in Albania [15] which showed that 90.9% of PHCCs had a sustainable register of the drugs and contains all the information.

A good evaluation was shown for the availability of a valid refrigerator for vaccines in the current study which found that 95.7% of PHCCs had a good score. This result disagrees with the finding a previous study conducted in Nigeria[16] which found that 72.4% of the centers had no a valid refrigerator for vaccines.

The results of this study indicated that all PHCCs (100%) had a valid refrigerator for drugs in the pharmacy unit. This result disagreed with the finding of a study done in Albania [15] which found that only 54.0% of the centers had no a refrigerator at the appropriate temperature for drugs.

A high percentage (95.7%) of PHCCs had a good score for providing a valid freezer for vaccines. This result disagreed with the finding previous study done in south-east Nigeria [14] which found that 60% of PHCCs had a valid freezer for vaccines.

Conclusions

The current study shows there are clear deficiencies in some standards (such as pharmacist assistant), and furniture (such as computer), so the average percentage for pharmaceutical services is good in spite of the presence of poor indicators in some primary health care centers.

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Conflict of Interest: None

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