THE PRACTICE OF PHARMACISTS IN EDUCATING DIABETIC PATIENTS IN BENGHAZI HOSPITALS

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Abstract

Diabetes mellitus (DM) is a group of metabolic disorders characterized by hyperglycemia .it is associated with abnormalities in carbohydrate ,fat and protein metabolism ,and result in chronic complication. The pharmacist is a very important member specially in drug giving instruction. **descriptive cross-sectional study   about education role of pharmacist as part of the health care provider in Libya health system institutions.**   The study was carried out among pharmacist working as full time   and patients available and accept to participate in our study.

The study include 151 of pharmasists and DM patients, coming for follow up in the DM clinics, we found gender 47.0% male & 53.0% female in different age groups about half from the age group of 40 –59years old. Our present study show that pharmacist did not participate much in health education programs for patients in general and for DM specifically. While they think that the medication use time, and the dose should be explained to patient, due to the need for it.

The practice of pharmacists In educating diabetic patients

In Benghazi Hospitals

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Introduction

Out Of all non-communicable diseases, diabetes is the most common. The number of adults with diabetes in the world is estimated to rise from 135 million in 1995 to 300 million in the year 2025. The major part of this numerical rise will occur in developing countries. There will be a increase, from 51 to 72 million in the developed countries and increase, from 84 to 228 million in the developing countries. In our country Libya. Diabetes is a complex, chronic illness requiring continuous medical care with multi-factorial risk-reduction strategies beyond glycemic control, because treatment is not only given prescribed drug to patient, but it has to take to consideration, some other factor like life style, smoking habits, nutrition habit and also education level of the people can effect, as well type of work which effect the D.M. (1)

Diabetes mellitus (DM) is a group of metabolic disorders characterized by hyperglycemia .it is associated with abnormalities in carbohydrate ,fat and protein metabolism ,and result in chronic complication including micro vascular ,macro vascular and neuropathic disorder and some other related complication .(2)

Majority of diabetics are in the age range of 45- 64 years in the developing countries. This pattern will be accentuated by the year 2025, and diabetes will be increasingly concentrated in urban areas. (3)

Ongoing patient self-management education and support are critical to preventing acute complications and reducing the risk of long-term

complications. Significant evidence exists that supports a range of interventions to improve diabetes outcomes. However, D.M known to be as diabetes type 1 insulin deficiency, diabetes type 2 insulin resistant, diabetes for pregnant ladies type3.

Considering the patient safety, one of the responsibility is on the pharmacist, by avoiding some of the error regarding dispensing drugs, Patient counseling and selected information related to DM. They are widely accessible, available, in frequent contact with the public and able to access people who are apparently healthy. (4)

Patients need a series of advices about the disease, time to time, from all the health team who is responsible to provide health care to patients, including pharmacist, nutrition and social care.etc. This team-based approach is appropriate, (multi-disciplinary team) involving people with diabetes and health-care providers, which has been proven to result in lower average levels of blood glucose, a reduction in diabetes complications, and improved quality of life. (5)

The pharmacist is a very important member specially in drug giving instruction he\she should have good communication skills, to be able to educate the patient about the proper use of medication , screening for drug interaction , explain, monitoring, give advices, and make recommendation for supplementary product and services. as a role of pharmacist. (6,7)

A pharmacist is one of few medical professionals in the world to whom a patient or anyone can go for a consultation or advice regarding health matter without an appointment, they are knowledgeable of aspects concerning patients and their medication, pharmacists have long-term relationships with most of chronic patients, which sets a good mutual trust and respect. (8,9)

The present study try to explore the knowledge, attitude and practice as will the role of pharmacist to help DM patient by given the right advices in proper way to reduce the effect of the disease on the patient & limited the disease complication as much as possible.

Material and method

The study type was conducted as descriptive cross-sectional study about education role of pharmacist as part of the health care provider in Libya health system institutions.

The study started from Des. 2016 to Feb 2017 the study include the public hospital and poly clinic located in the cities of Elmarje, gamines, Benghazi.

The study was carried out among pharmacist working as full time and patients available and accept to participate in our study . All of these who were available at the time of data collection in the health institution which have been selected for the present study.

Data collection method were developed as a questionnaire which divvied to include information as:-

- Main characterizes [age..sex..education level….]

- Information about the pharmacist

- Information about the quality of the pharmacist

- Information about pharmacist skills ,and rule in education patient

- Information about patient satisfactions

- For the purpose of reducing the error of data collection researches has put and run a training about data collection importance and methods to be recognized.

The data collected was stored using SPSS software program, cleaned and analysis using the software version 19, and tabulated in descriptive/ percentage means.

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The study include 151 of pharmasists and DM patients, coming for follow up in the DM clinics, we found gender 47.0% male & 53.0% female in different age groups about half from the age group of 40 –59years old. The income of participant show only very few of those with income of more than one thousand Libyan dinar per month, with working for private business half of the study subjects, and more than half leave far from the DM clinic service. Tab.1

Considering seeking some information related to DM, more than half of subjects (53.1%) are prefer to ask the physician first more than the pharmacist, while about one fourth (25%) a thought to ask pharmacist first , In looking for how people get the medicine we found that 14.1% use to taking needed medicine without prescription..table(2)

Regarding the attitude of participants about pharmacists that 32.0% of educated people with less than high school says that there idea about pharmacists is they are primary business people, in general 66.9% pf participants think pharmacists are mainly business people, only few who think that pharmacists are primarily health care provider. table(3)

Diabetic patient need time to time some information to be explained about the disease but for some reason can not get it, 40% of them don't ask because lack of privacy in pharmacy..while about half of them they prefer to ask the physician. table (4).

69.1% of participants agrees that the pharmacist have a good knowledge about diabetic drugs, while only very few thought that pharmacists have good communication skills, as will as keeping medical records. table (5)

Since the services of pharmacists is necessary for helping patients with DM to keep effective control over their case, so enable them to be as normal, about half (48%) agree that able to get consulting and advice related to minor medical problems, considering counseling regarding DM related other diseases, effects of medication to be avoided, as will the proper direction of drugs usage, which appear highly expected services of pharmacists . However, a few of the participants do not agree on the type of services. (Tab. 6)

Table (1) the main characteristics of study participants

Characteristics	Frequency	percentage
Gender		
• Male	71	47.0
• Female	80	53.0
Age		
• *< 25*	32	21.2
• *25 – 39*	37	24.5
• *40- 59*	67	44.4
• *>= 60*	15	9.9
Educational level		
• less than high school	58	38.4
• high school	22	14.6
• above high school	71	47.0
Income		
• without OR less than 500	75	49.7
• 500-1000	67	44.4
• 1000 OR more	9	6.0
Occupation		
• Public	61	40.4
• Privet	76	50.3
• Student	14	9.3

Location		
• Near health center	64	42.4
• Far from health center	87	57.6

Table (2) Whom You are Prefer To Ask

About D.M

Characteristic	Ask for advice		get medication without prescription		Get cosmetic product		Get a herbal product		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Doctor	17	53.1	75	75.7	3	30.0	5	55.5	100	66.2
Pharmacist	8	25	14	14.1	2	20.0	3	33.3	27	17.8
Nutritionist	2	6.3	3	3.0	0	0.0	0	0.0	5	3.3
A Friend	1	3.1	1	1.0	1	10.0	0	0.0	3	2.0
Other	5	15.7	6	6.1	1	10.0	1	11.1	13	8.6
Total	33	22.3	99	66.9	7	4.8	9	6.1	148	100.0

Table (3) Idea of participants to the priority of Pharmacist

compared to their education level.

Characteristic	Less than high school		High school		Above high school		Total	
	No.	%	No	%	No	%	No.	%
Primary business concern	19	32.7	7	31.8	20	28.2	46	30.5
Balance between health and business	33	57	14	63.6	29	41	86	66.9
Primary health care of people	6	10.3	1	4.5	12	16.9	19	12.6
Total	58	38.4	22	14.6	71	47.0	151	100

Table (4) the idea about the things that makes the

patient not asking the pharmacist..

Characteristic	Agree		Disagree		Natural		Total	
	No	%	No	%	No	%	No.	%
Fear for asking	12	10.9	2	10.5	0	0	14	9.3
Lack of privacy	44	40.0	4	21.1	7	31.8	55	36.4
Physicians more trusted	54	49.1	13	68.4	15	86.2	82	54.3
Total	110	72.8	19	12.5	22	14.5	151	100

Table (5) The opinions of the study subject about the

service of the pharmacist that you visit

Characteristic	Agree		Disagree		Natural		Total	
	No.	%	No	%	No	%	No.	%
Keeping medical record	15	13.6	2	10.5	5	22.7	22	14.6
Good knowledge of related drug	76	69.1	14	73.7	15	68.2	105	69.5
Good communication skills	19	17.3	3	15.8	2	9.1	24	15.9
Total	110	72.8	19	12.6	22	14.6	151	100

TABEIE (6) The patients expectation about

pharmacist services

Option	St. Agree	agree	disagree	normal	D.N
Consulting and advice me on the drugs and minor medical problems	12(7.9)9	61(0.4)	26(17.2)	39(25.8)	13(8.6)
Counsel me about my D.M that I am suffering from.	24(15.9)	97(64.2)	11(7.33)	14(9.3)	5(3.3)
Counsel me about the disease might be related to D.M	21(13.9)	83(55)	10(6.6)	37(24.5)	00.0
Counsel about adverse effect of my medication and their interaction with other medication	50(33.1)	82(54.3)	16(10.6)	3(2)	00.0
Counsel me about directions for use of D.M medication.	44(29.1)	83(55)	3(2)	21(13.9)	00.0
Counsel me about the D.M medication action and indication.	25(16.6)	92(60.9)	34(22.5)	00.0	00.0
Help me in the selection of OTC medication	22(14.6)	81(53.6)	2(1.3)	46(30.5)	00.0
Ready to answer my drug selected question	15(9.9)	77(51)	10(6.6)	49(32.5	00.0
Consulting and advice me on the TTT of minor medical problems	32(21.2)	84(55.6)	8(5.3)	27(17.9)	00.0
Chick my prescription for D.M d	32(21.2)	102(67.5	2(1.3)	13(8.6)	2(1.3)

Table 7 Satisfaction about the pharmacist

services provided for patients

Option	St. agree	Agree	Disagree	Normal	Don't know
Feeling easy to ask the Pharmacist.	31(20.5)	79(52.3)	19(12.6)	22(14.6)	00.0
Handle the prescription and provided counseling to pt.	14(9.3)	81(53.6)	12(7.9)	38(25.2)	6(4)
Pharmacist. Maintain privacy concerning my prescription	22(14.6)	77(51)	9(6)	32(21.2)	11(7.3)
Pharmacist discuss and give enough time to D.M pt.	10(6.6)	86(57)	6(4)	49(32.5)	00.0
Pharmacist. Knowledgeable enough	23(15.2)	86(57)	2(1.3)	38(25.2)	2(1.3)

Discussion

The present study shows that, diabetic health services are free of charge services, However, there appear to be a need for improvement in the standards of diabetes health care provided in the health clinics. The patients' knowledge and practices suggests that education for diabetic patients needs to be improved.

Pharmacist , as part of the health team for providing intervention in the type 2 DM patients can lead to reductions in mortality, morbidity and the cost of treatment.

About 53.1% are prefer to ask the physicians more than the pharmacists, this could lead to some problem specially that the physician have to disuse with pharmacist about the drugs formulation. 25% only reported to go for the pharmacist first for counseling about DM, and their health in general.

Our present study show that pharmacist did not participate much in health education programs for patients in general and for DM specifically. While they think that the medication use time, and the dose should be explained to patient, due to the need for it.

Considering the method to give health education, like giving related health material ,discussion with the patient, other methods may be requesting patient to attend a health education session related to their interest.

Communication between the diabetic patient and the pharmacist for the purpose of educating patient about drugs, it appears as not taking place may be due to the lack of enough training during study time about communication importance. So the present study, shows that 32% of study people with less than high school level, sees that the pharmacists are primary business people than health care people. Other studies show that interventions by a pharmacist are successful in patients with type 2 DM

indicate a minimum HbA1c reduction of 0.5% per patient with a maximum reduction of 3.4%. Ultimately, pharmacist intervention in type 2 DM patients can lead to reductions in mortality, morbidity and the cost of treatment. [10,11,12,13]

Pharmacists already provide some service to their patients, so it could be argued that pharmacists are already having a beneficial effect on glycemic control to some degree. It is reasonable to assume that the improvement is due to the regular contact between the patient and the healthcare professional. There is also an ease-of-access factor to consider, because the patient will collect their prescription on a regular basis, in any case. Many type 2 DM patients have to take other medications and have a complex dosing regimen. The pharmacist is well placed to educate the patients about their medication and clarify their regimen to improve adherence. Pharmacist intervention also proved beneficial in increasing screening for the complications associated with type 2 DM [14,11,15,16,17].

The complications associated with type 2 DM can have an adverse effect on patients quality of life, so any improvement in quality of life may indicate a lower instance of complications. The reported decrease in risk of non-adherence will ultimately result in a reduction in complications, which is linked with better glycemic control. [10]

The present study indicated that attention should be given to pharmacist work environment and training about method of communication with patients and others.

The effective delivery of health care requires a partnership between people and their health-care providers. Because of the multidisciplinary nature of diabetes care, this team-based approach is appropriate. Indeed, a multidisciplinary team approach involving people with diabetes and health-care providers, such as nurses, dietitians, pharmacists, and physicians, has

been proven to result in a reduction in diabetes complications, and improved quality of life.

Conclusion and recommendation

Evidence suggests that strict control over diabetes results in improvements in overall quality of life; cost effective and can delay complications.

Patients with diabetes should be educated about the nature of the disease, the importance of treatment compliance, foot care, exercise, symptoms and treatment of hypoglycemia, and dangers of smoking. There should be visual demonstrations on how to inject insulin, feet check-up, and nail-cutting.

A dietitian, should be knowledgeable about, Libyan food and eating habits, and, should be available daily in the diabetic clinics, to help such people. Health care providers (doctors, nurses, and other medical personnel) should be trained both locally and abroad on diabetes health care.

The main recommendation include:-

1. Educate the people about diabetes should be emphasized as one of the main rule of pharmacist.

2. More research about the disease in a deep way that discuss the importance of the pharmacists role in controlling of DM.

3. Motivating pharmacist and all the health care team to enrolled in training program regarding communication skill with patients.

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