Patient satisfaction on the availability of chronic diseases medications Case study at Al emamain Al khadimain medical city

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Abstract

Introduction

Patient satisfaction is an important and commonly used indicator for measuring the quality in medical care, Patient satisfaction affects clinical outcomes, patient retention, and medical malpractice claims, it affects the timely, efficient, and patient-centered delivery of quality medical care.

Objective

The aim of the research is to identify the level of satisfaction of patients with chronic diseases about section of pharmacy, and the extent of availability of chronic disease medications at Al emamain Al- khadymain medical city, which is the research community.

Method

In this study, the study population was from patients with chronic diseases and those who are the inpatients and outpatients in Al emamain Al khadimain medical city, and their number is (76576) , who received treatment and had clear ideas about the level of medical services provided to them from the period of 1/11/2010 until 1/11/ 2011 , also included a group of pharmacists working in the pharmacy section and its units in the medical city and their number(46), who are responsible for the availability of chronic disease medicines for those patients.

a random sample of 40 patients and 12 pharmacists was selected at the medical city and the forms completed through their interview, the collected data analyzed statistically by using the statistical package (SPSS), to evaluate the level of satisfaction in the areas and aspects of the interview, as well as the test of the scientific hypotheses to determine the extent to which the personal characteristics of the patient affect his or her satisfaction on the hospital as a whole and his satisfaction on the availability of chronic diseases medications .

RESULTS

One of the most important results from this research is that the level of general satisfaction of patients with chronic diseases in the medical city were not acceptable with (52.5%), while satisfaction on the availability of chronic disease medications show up (51%), and there was increase in general satisfaction for patients with chronic diseases on the medical city with the availability of medicines for chronic diseases, also there were many difficulties encountered in managing the hospital in the development of strategies and medical policies for the provision of these medications in appropriate quantity and quality.

KEY WORDS: Chronic diseases, patient satisfaction .

Introduction:

Non communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person, they are of long duration and generally slow progression, The four main types of chronic diseases are cardiovascular diseases (like heart attacks , hypertension and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes .

The WHO projects increases in deaths and illness due to chronic diseases in low- and middle-income countries up to 2030, The increasing prevalence of chronic disease in developing countries can be decomposed into two main trends: rising average age of the population and changing epidemiologic profile of the population, **Figure(1**) shows that expected improvements in age-specific death rates from chronic diseases in developing countries will not outweigh the mortality increase caused by having an older population.

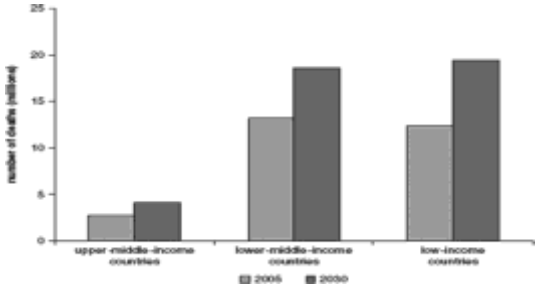


Figure 1. Projected deaths due to Non communicable diseases by country income level, 2005 and 2030.

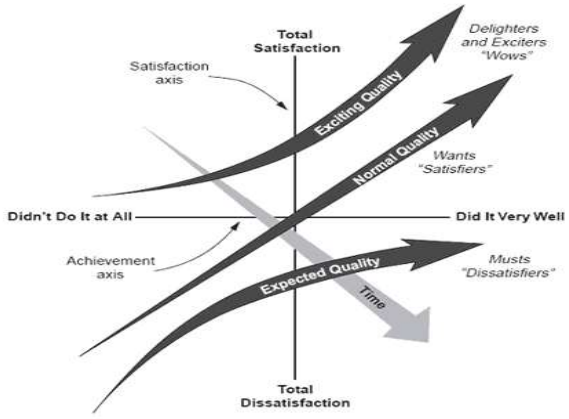
the control of chronic diseases in developing countries has received little international attention, one of the targets of the millennium development goals deals with access to affordable essential medicines in developing countries, in the WHO action plan for the Global Strategy for the prevention and control of chronic diseases to achieve this target, special efforts will be required to ensure universal and sustained availability of medicines for chronic conditions.

The goals of chronic diseases care are not to cure but to enhance functional status, minimize distressing symptoms, prolong life through secondary prevention and enhance quality of life, the most important steps to reduce the burden resulting from symptoms of chronic diseases is to provide medicines with the necessary quality and quantity.

Patient satisfaction is a highly desirable outcome of medical care in the hospital and may even be an element of health status itself, a patient's expression of satisfaction or dissatisfaction is a judgment on the quality of hospital care in all of its aspects, whatever its strengths and limitations, patient satisfaction is an indicator that should be indispensable to the assessment of the quality of care in hospitals .

The Kano Model provides a useful tool for studying different levels of patient

expectations, this model is useful to examine the voice of the customer in the relationship between satisfaction and quality of medical care **fig(2)**, and it is relevant for hospital encounters, According to the model, patients will have a basic set of subconscious expectations about their medical care that will be taken for granted, These expectations are so routine and expected that patients don't recognize them as comparative quality factors, but they will be shocked if they are absent.



Kano model (fig2)

For example, patients assume that hospitals are basically competent, and that hospitals are capable of providing chronic diseases medications , although these expectations are in the patient's subconscious, if they are not met, the patient will be dissatisfied, Providing this level of basic quality isn't necessarily enough to create satisfied patients.

The model shows that satisfaction increases as more of these expectations are met and that patients will be dissatisfied if these quality expectations are not met, Patients use comparisons of these expectations to recognize differences among competitors and to make choices

Method

Study design and setting: This is a cross-sectional study, to identify the level of satisfaction of patients with chronic diseases about section of Pharmacy, and the extent of availability of chronic disease medications at Alemamain Alkhadimain medical city, through direct interview with pharmacists and the patients with chronic diseases

Selection of sample: Interviewees were with 40 randomized patients with chronic diseases, the visitors and fallows in the different sections of the medical city ,as the daily average of patients was (130) patients per day, and this sample accounted for (30%) of the number of patients ,the number of diseases studied was eight (heart disease , high blood pressure disease Diabetes, epilepsy, bronchial asthma, thyroid disease, high cholesterol, and cancer diseases) , in fact (5) patients for each disease of both sexes and for different ages, the researchers prepared the Interview forms of patients and pharmacists after reviewing a number of previous studies Related to the subject , also the sample accounted (12) pharmacists from (46), who are responsible for the availability of chronic disease medicines for those patients.

Questionnaire preparation: A questionnaire form was prepared by the authors from the following websites:

1. Miller, 2003, "**Patient Satisfaction Questionaire**".

2. Davis, 2005, "**Methods Of measuring Of Patient Satisfaction**".

The questions were prepared and drafted after being submitted to a special committee in the

Department of Business Administration at the College of administration and economic / University of Baghdad, and Specialists Doctors in the Department of Health Baghdad alkarkh, and identified their names and specialization **app(1) .**

The tool consisted of two parts:

- ***Section I*** :Include the personal data of the sample members (gender, age, Academic achievement, socialization) table (1)

Table (1) shows the personal characteristics of the research sample:

Sex	**male**	**female**		
	22	**18**		
Age	**Below 50 y**	**50 – 60 y**	**Above 60 y**	
	22	**11**	**7**	
Sociality	**rural**	**city**		
	14	**26**		
Academic achievement	**unlettered**	**Primary or middle**	**prepartory**	**collage**
	6	**12**	**13**	**9**

- **Section II**

The interviews, conducted by the researcher with some pharmacists and patients included:

1. Interviews of patients with chronic diseases, the interview form Included on (5) general questions about medical services that provided at the medical city for knowing the general satisfaction with the hospital as a whole, and (20) questions about the availability of medicines for chronic diseases, in order to know the patient's satisfaction, and the answer Distributed over five levels (weak, average, good, very good, excellent) and awarded each answer(4,3,2,1,0) Respectively , as indicated in the forms, and the results of the interview **(app 2**).
2. Interviews by the researcher with pharmacists, who working in the hospital, and included the interview form (8) questions **table (2)**, about hospital medical services for patients with chronic diseases and the availability of chronic diseases medication, the eight questions were answered (yes or no).

Ethical considerations:

Approvals of the study proposal were obtained from the scientific committee in the Council of Arab Board for Health Specialization and from the ethical committee at Ministry of Health in Iraq.

Hypotheses

1. The first hypothesis: (**the more satisfied about the availability of medicines, the greater the general satisfaction with the hospital as a whole)**.

2. The second hypothesis: (**the level of general satisfaction of patients with chronic diseases varies according to gender, age, socialization, educational achievement, type of disease).**

3. The third hypothesis: **(The level of satisfaction on the availability of medicines for chronic diseases patients vary according to, Sex, age, socialization, achievement Study, type of disease).**

Statistical analysis

The following statistical methods were used for analysis and testing, which were conducted by using the statistical (**SPSS**) Program.

- Correlation analysis (**Pearson's coefficient**) to determine the relationship between the two variables (general satisfaction with the hospital as an approved variable and satisfaction with the availability of medicines in the hospital as an independent variable).

- **Regression analysis** in order to predict the expected values of the approved variable (**general satisfaction**) by knowing the Independent variable (**Satisfaction with the availability of medicines for chronic diseases in hospital)**.

- X^2 (**Chi - Square**) Statistics .

- **Percentages** for the purpose of knowing the percentage of ladder the answer.

- **F-test** to know the morale of the variables.

- **T- test** to see the effect of variables.

RESULTS

In pharmaceutical status in **table (2)** The results of the interview with the sample of (12) pharmacists showed that (66.7%) of These pharmacists believed that the relationship between pharmacists and medical city administration was good while (33.3%) of them confirmed that the relationship not enough If compared to their efforts ,(33.3%) of these pharmacists reported that the number of workers in the pharmacy is sufficient to meet the patients needs ,(66.7%) of these pharmacists confirmed that there are insufficient number of workers in the pharmacy to meet patient needs ,75% of the pharmacists answered that the location of the pharmacy inappropriate to meet the patient's need, while the remaining 25% of the pharmacists indicated that the pharmacy location meets the patient's needs, (83.3%) believe they are scientifically qualified and skilled to meet the needs of patients and achieving the satisfaction with the medical services provided to them In the medical city pharmacy , while 16.7% of these pharmacists considered that their scientific qualifications were insufficient to meet the needs and expectations of the patient, as can be seen in **table (2**) 58.3% of the workers in the pharmacy believe that the nature of the relationship between the pharmacists In the pharmacy is an acceptable relationship, but it is not coherent as it considered by (41.7%) of the pharmacists in the pharmacy, (66.7%) of the pharmacists had bad relations with the employees in the other departments, the remaining number of pharmacists (33.3%) showed that the relationship is good and positive with other employees in the medical city, it was noted that (66.7%) of the pharmacists showed that the relationship was good and friendly with the patients , while 33.3% of hospital pharmacists confirmed that the relationship with patients was not stable and is plagued by many problems and obstacles, (50%) of the pharmacists believed that the chronic diseases medications in the section of Pharmacy are of quality, and quantity not enough to meet the needs of patients with chronic diseases ,the remaining 50% of the pharmacists showed that the quantity and quality of medicines in the medical city pharmacy is good enough to meet the needs of patients with chronic diseases.

Positive pharmacists' responses were summarized as (yes), which was (52.1%) for the first eight questions which were presented by the researcher through the interview forms, The negative responses were (47.9%) of the same group of questions.

Table (2)

The pharmaceutical status at Alemamain Alkhadimain medical city was also reflected in the results of the organization's interview conducted on the staff of the pharmacy section and its units

seq	question	Yes		no	
		Frq *	%**	Frq *	%**
1	Does the medical city administration care equally for all hospital departments?	8	66.7	4	33.3
2	Do you think that the employees of the medical city pharmacies are sufficient to meet the needs of the patient?	4	33.3	8	66.7
3	Is the location of the pharmacy in the medical city suitable to meet the patient's needs in terms of space, order and location?	3	25	9	75
4	Is the qualifications of the staff working in the pharmacy in terms of the Experience and competence meet the needs of the patient?	10	83.3	2	16.7
5	Is the relationship between the staff working in the pharmacy Friendly and cooperative with each other ?	7	58.3	5	41.7
6	Is the relationship between the staff working in the pharmacy and the rest of the staff in the medical city good?	4	33.3	8	66.7
7	Is the relationship between the staff working in the pharmacy and the patient good and friendly ?	8	66.7	4	33.3
8	Are the medicines available in good quality and quantity in the medical city pharmacy to meet the patient's need ?	6	50	6	5
	average	50	52.1	46	47.9

Note : * frequency ** percentage

Table (3) shows that the number of in and out patients with chronic diseases which reached (76576), representing 15% of the total number of visitors to the hospital which exceeded half a million patients for the same period

Table(3)The number of patients with chronic diseases Who received treatment in Alemamain Alkhadimain medical city for all age groups for the period from 1l11l2010 to 1l11l2011

seq	Type of disease	Under 15 y		14-44y		45-60 y		More than 60 y		Total	
		male	female	male	female	male	female	male	female	male	female
1	diabetes	276	301	1688	2026	2017	2300	2210	2263	6198	6890
2	hypertension	0	0	1402	1521	2457	2345	2412	2425	6271	6291
3	Heart	9	13	2617	2896	4223	4296	4602	5149	1145	1235

	disease									**1**	**4**
4	**epilipcy**	**70**	**65**	**170**	**213**	**117**	**71**	**0**	**0**	**357**	**349**
5	**asthma**	**240**	**276**	**1760**	**1833**	**1327**	**1308**	**1129**	**1156**	**4456**	**4573**
6	**High Cholesterol**	**0**	**0**	**893**	**1076**	**2191**	**2332**	**2909**	**2765**	**5993**	**6173**
7	**Cancer diseases**	**20**	**10**	**25**	**28**	**45**	**52**	**65**	**50**	**155**	**140**
8	**Thyroid gland diseases**	**198**	**135**	**398**	**435**	**798**	**875**	**998**	**995**	**2392**	**2540**
	Total of each age group									**3726**	**3931 0**
	Grand total of groups									**76576**	

Source / Statistics section of Baghdad Health Department / Karkh, 2011

The highest percentage of patients in the medical city were patients with cardiovascular disease (31.08%), followed by diabetes (17.09) then high blood pressure (16,40%), then increased blood cholesterol by (15.88%), and then asthma (11.79%), thyroid disease (6.44%), epilepsy (0.94%), It was also noted that the most casualties were of the age (65) years or more because of atherosclerosis that occurs in these ages

In order to find out more about the two variables: (*general satisfaction with the hospital as an approved variable, and satisfaction on the availability of medicines as an independent variable*), the first major hypothesis was presented (**The greater the satisfaction with the availability of medicines, the greater general satisfaction with the hospital as a whole**), measuring the correlation coefficient (Pearson coefficient) between these two variables, its value as shown in **table (4)** is (0.792) level (**T**) is greater than the value (**F**) of significance (0.01), and in degrees of freedom (38), the calculated (**F**) value is greater than the value of (**T**).

Table (4), Pearson correlation coefficient between the general satisfaction variable and satisfaction with medication availability.

Statement	**Correlation coefficient (Pearson)**	**Level of significacy**	**The studied sample**	**Degree of freedom**
Details of calculated values	**0.792**	**0.01**	**40**	**38**

Referring to the extracted statistical evidence for them accepts the previous hypothesis that there is a real relationship and a significant difference between these two variables with 99% confidence in the correlation coefficient extracted.

The mathematical relationship between the two variables was found by applying the least square method using the SPSS program and the indicators have been reflected in the following equation as in the **table (5).**

General Satisfaction with the medical city(X) = 1,012 +0,187 Satisfaction with the availability of medicines in the medical city(Y)

Table (5) statistical effects of simple linear regression analysis on availability of medicines towards the general satisfaction of Alemamain Alkhadimain medical city.

Statement	Coefficient of correlation*	adjusted Correlation square	Correlation square	&	B	Standard Error	T test
Statistical value	0,792	0,716	0,627	1,012	0,187	0,426	7,993
F value							63,887
Degree of feedom							38

after looking at the results mentioned above, it is clear that the value of(**F**) Is very high, at a significant level (0.01), This is indicated that the regression curve is good by describing the relationship between (X) and (Y), that mean: regression coefficient is different from zero ,and the value of the constant(**&**) was (1,012), indicating a general satisfaction with the hospital as a whole equal to its value by the previous number even if the satisfaction with the availability of medicines is equal to zero , about (B) value which mean regression slope it was (0.187), that mean the difference (1%) in satisfaction with the availability of medicines at the medical city lead to create a difference which equal to(0,187) in general satisfaction with this medical city as a whole .

the correlation square or as named coefficient of determination ($\mathbf{R^2}$), indicate that satisfaction with the availability of medicines as an important measure, it explain approximately 62.7% of the total variation in general satisfaction about the medical city, for the test (**T**) and Standard error (**S**), It also confirms that the effect of the independent variable in the dependent variable is essential.

The second main hypothesis is that, (**The level of general satisfaction of patients with chronic diseases varies according , Gender, age, socialization, educational achievement, type of disease**), The hypothesis has been tested To infer the existence of a relationship between the two variables or not, by using (**Chi - Square**) $\mathbf{X^2}$ statistics ,**table (6)** shows the correlation coefficients extracted between these two variables, and their test.

Table (6), Relationship between general satisfaction with the hospital and the personal traits of the patients with chronic diseases

statement	age	Academic achievement	sex	Disease type	sociality
X^2 value (Chi – Square)	3.334	4.169	2.244	6.644	0.082
Level of significance	0.189	0.248	0.134	0.244	0.189
Degree of freedom	2	3	1	5	1

by comparing value of **X^2 table (6),** Illustrated and for all personal characteristics of their relation to general satisfaction with the medical city is less than the value derived from the table, the previous hypothesis should be rejected at the level of significance set out in the above in **table (6)**, and it is very weak formula, to reflect that the differences between observed Differences and expected frequencies are believed to be caused by chance.

from the **table(7),** and comparing the relationship between satisfaction with the availability of medicines in the hospital and personality traits, that the relationship between them is also very weak and then they do not achieve to a large extent the third research hypothesis which reported(**The level of satisfaction with the availability of medicines for chronic diseases of patients vary according Sex, age, socialization, educational achievement, type of disease),** This leads to the fact that the differences between expected and observed frequencies were very limited, which is why it is not Dependence on the personality traits of the patient (age, gender, level of study , sociality and type of disease) in satisfaction with the availability of medicines at Alemamain Alkhadimain medical city.

Table (7) The relationship between satisfaction with the availability of medicines in the medical city and the personal traits of patients

statement	age	educational achievement	gender	Disease type	sociality
X^2 value (chi-square)	1,497	6,611	0,360	7,976	0,728
level of significance	0,473	0,085	0,548	0,158	0,393
Degree of freedom	2	3	1	5	1

DISCUSSION

The level of general satisfaction of patients with chronic diseases was not acceptable in Alemamain Alkhadimain medical city.

Also the level of satisfaction with the availability of medicines at the Alemamain Alkhadimain medical city Pharmacy by Point of view the patients, was also highly unacceptable.

Patients with chronic diseases are more satisfied with Alemamain Alkhadimain medical city with medicines availability.

The difference in data derived from factual data between satisfaction with the medical city and availability of medicines with personal traits of patients with chronic diseases (age, sex, educational achievement, socialization, type of disease) was not substantially, but rather it was apparent difference is due to random sample study.

Although, the existence of a strong relationship between personal characteristics and general satisfaction with the hospital, and satisfaction with availability of medicines because the results and indicators extracted from the research assess the strong evidence of weak relationship between these two, variables .

There are many difficulties for the administration of the medical city and its pharmacy section in developing strategies and policies to provide chronic diseases medications in sufficient quantities and good quality.

The relationship between pharmacy workers with each other lacks cooperation and respect,

the current relationship does not meet the needs and desires of the patient.

The place of the pharmacy is not suitable to meet the needs of patients and pharmacists together in terms of area, and away from consulting clinics.

unfriendly relations and incomplete cooperation between patients with chronic diseases and the workers in the section of pharmacy has been observed violations and many abuses due to the lack of health awareness and health culture among the Patients, as well as the lack of availability of medicines prescribed to them by the treating physician which adversely affects the their satisfaction.

The number of workers in the pharmacy is not enough to meet the needs of patients due to the increase in the number of patients who are audited to the hospital.

The lack of skilled human resources working in hospital pharmacies such as administrators, technicians, programmers, and service staff, which adversely affected, the patient's needs .

Lack of chronic diseases medications in the pharmacy in sufficient quantity and quality that prepared by general company for the marketing of medicines and medical supplies .

The most common diseases are heart disease due to coronary artery failure due to the association of these psychological anxiety disorders that occur to these patients because of complex life nature as well as lack of commitment to healthy diet.

The inability of the General Company for the marketing of medicines and medical supplies to secure the needs of hospitals Medicines in terms of quantity and quality especially medications for chronic diseases for many reasons, including the complex mechanism for importation and the absence of financial allocations for the purchase of such medications.

The physical dimension of medical service is the most important dimension of quality of medical service and patient satisfaction in the hospital, which suffers from the lack of exploitation of the available facilities, and employ them to meet the wishes of the patients, Leading to waste of these facilities and lack of patient satisfaction.

The medical city administration does not periodically assess the health and pharmacological performance of the medical city, to know the truth of their views, addressing deficiencies in health performance, and making ongoing adjustments to achieve patient satisfaction.

CONCLUSIONS

Measuring the satisfaction of the patients about the medical service is the most important mechanisms of assessment and follow-up, to identify the strengths and weaknesses of the medical organization, as well as to develop development strategies for its management.

provision adequate quantity of medication for people with chronic diseases is an essential part of their lives , to achieve the satisfaction of the patient with this type of disease, which includes the conditions that accompany the disease throughout his life, and does not end with treatment for a certain period because of the happiness specificity Because of its specificity in the happiness of the patients and the satisfaction quality with provision the adequate amount of medication (which they should take on time and the appropriate dose) by the hospital, and in collaboration with the other major parts of the hospital whose providing medical services such as examination, nursing services, hotel and food services that complete the patient's satisfaction.

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