

COMMON REASONS FOR DRUG NONCOMPLIANCE IN PATIENTS WHO ARE ATTENDING OUTPATIENT CLINICS IN PRIMARY HEALTH CARE AT MAKKAH AL-MOKARRAMAH

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Abstract:

Background:

The compliance with standards in health services is non-negotiable as it is fundamental in improving KSA current poor health outcomes, restoring patient and staff confidence in the public healthcare system, achieving widespread sustainable development and providing basic quality healthcare in KSA. Despite the growing interest in understanding the a etiology of chronic diseases, limited studies exist on medication noncompliance, especially, among perturbing and rural dwellers in KSA. Barriers to medication adherence in patients can have significant differences that made researchers confute to conclude that medication adherence is required to be more explored, and then, beneficial interventions develop to decrease these barriers. Some of the main barriers to patient compliance with pharmacological therapy The barriers to medication adherence included four concepts, namely, lifestyle challenges, patient incompatibility, forgetting of medicine use, and no expert advice. These concepts are always present in the disease process and reduce the patients' efforts to achieve normal living and adhere to the medication. Medication non-adherence when patients don't take their medications as prescribed is unfortunately fairly common, especially among patients with chronic disease. Most non-adherence is intentional patients make a rational decision not to take their medicine based on their knowledge, experience and beliefs There are many reasons for non-compliance with in patients for medication.

Aim of the study: To assessment of drug noncompliance among patients who are attending out patient's clinics in Primary Health Care Centers, Makkah, 2019 at Makkah Al-Mokarramah.

Method: Across sectional descriptive study conducted among including Sample population consists of Saudi out patients aged 20-60 years attending to outpatient in selected primary health-care centers in Makkah Al-Mokarramah city, during the October to December, 2019, the Sample size of medical practitioners. Our total participants were (234).

Results: shows a statistically significant association socio-demographic (age, education, occupation, income) and Regular taking medication with (P-value <0.001) , respectively Chi-square (34.607, 72.638, 9.144, 32.151) Regarding gender shows no statistically significant association between gender and Regular taking medication with (P-value 0.364) , Chi-square (0.826).

Conclusion: Recommendations to facilitate compliance with were described, which included implementation of effective management practices and allocation of adequate healthcare resources required to facilitate such compliance. The factors related to compliance may be better categorized as factors as the approach in countering their effects may differ. The study also highlights that the interaction of the various factors has not been studied systematically. Future studies need to address this interaction issue, as this may be crucial to reducing the level of non-compliance in general, and to enhancing the possibility of achieving the desired healthcare outcomes. Drug noncompliance not only includes patient compliance with medication but a lot of factors For example also with diet, exercise, or life style changes

Keywords: Common, reasons, drug, noncompliance, outpatient clinics, PHC.

1. Introduction

1.1 BACKGROUND

To achieve widespread positive health outcomes, compliance with at primary healthcare (PHC) clinics is essential. (1) states that the effort to comply with quality standards is not incidental, but rather 'it is always the result of high intention, sincere effort, intelligent direction and skilful execution; it represents the wise choice of many alternatives'. The KSA National Department of Health's Policy on Quality in Health Care supports and further

asserts that compliance and commitment to maintaining high-quality standards will KSA to achieve the goal of quality healthcare for all of its citizens.(2) Oosthuizen et al.(3) report that compliance with accepted quality standards of care is the key to improve healthcare, while non-compliance with quality standards will not only result in costly legal action but also in the silent complications of sub-optimal care, with morbidity and mortality repercussions.

Non-compliance characterized as accepting meds as exhorted and recommended by health care insurance experts for expressed duration. (4)

Medicine adherence can be characterized as a cessation or disappointment of appropriate prescription admission without earlier endorsement from the rewarding doctor .(5,6) In healthcare, the commune generally used definition of compliance is “patient’s behaviors (in phrases of taking treatment , following changes eating style or modification heaped , Physiotherapy or executing life style changes) coincide with healthcare providers’ hints for fitness and scientific advice”.(7)That disappointment of patients to consistence with the medication is a significant issue if there should arise an occurrence of mental patients. Non-compliance of patients with recommended medication is considered as a boundary to compelling medicinal services. (5)The success of every therapeutic regimen depends on the compliance of the individual involved. The efforts put in by healthcare providers can therefore only yield the desired effect if patients are compliant to their medication regimen. Unfortunately, medication noncompliance with its associated detrimental effects is becoming widespread and has been found to be most prevalent among patients with chronic diseases.

Globally, chronic diseases have been found to be the leading cause of mortality and disability, and the disease rates from these conditions are not only accelerating but advancing across every region and pervading every socioeconomic class (9). The WHO projects that, by 2020, the incidence of chronic disease will account for almost three-quarters of all death occurring worldwide, and that 71% of deaths due to ischaemic heart disease (IHD), 75% of deaths due to stroke, and 70% of deaths due to diabetes will occur in the developing countries (10). The WHO further estimates that the number of people in the developing world with diabetes will increase by more than 2.5-fold, with the 1995 number of 84 million sharply rising to 228 million in 2025. On a global scale, 60% of the burden of chronic diseases and 79% of deaths attributed to these diseases are expected to occur in developing countries (11).

As of late, the expression "concordance" is additionally recommended to be utilized. Contrasted and "consistence", the term concordance settles on the patient the decision-maker and means patients-prescribers understanding and congruity. (12,13)

There are numerous variables, obstructions or obliges that cutoff and bringing down the patient capacity for consistence with drug. These variables might be identified with the patient, drug itself, or medicinal services related causes. There are clearly disregarding for persistent job and proposal to build their adherence to drugs. (14,15)Non-compliance of patients with prescribed treatment is considered as a barrier to effective health care. Non-compliance with prescribed treatment has implications for the health of the patients; the effective use of resources & assessments of the clinical efficacy of treatment .It is seen as an important area of concern for all health care professionals. (16,17)

Literatures Review

A study was done in Al Hasa region in Eastern Province of KSA that detailed a high level of Non-compliance to hostile to diabetic prescriptions (65–69%) in patients going to a diabetic center. (18) Another investigation was directed to report medicine adherence among Saudi patients in the city of Khoper situated in Eastern Province of Saudi Arabia, utilizing the General Medication Adherence Scale (GMAS). By recording the adherence example of type II diabetic patients in Khoper. (19)

Over the last two decades, there have been a plethora of studies that have examined variables that could be demonstrated as predictive of adherence to various medical regimens. The factors most often hypothesized in these studies as powerfully predicting compliance have generally been attributed to characteristics of both the disease and the patients. For example, to explore and evaluate the most common factors causing therapeutic noncompliance, Jin and colleagues found factors that could be categorized into (20) patient-centered factors, (21) therapy-related factors, (22) social and economic factors, (23) healthcare system factors, and (24) disease factors (25). Factors which relate to patients (e.g., suboptimal health literacy and lack of involvement in the treatment decision-making process), physicians (e.g., prescription of complex drug regimens, communication barriers, ineffective communication of information about adverse effects, and provision of care by multiple physicians), and health care systems (e.g., limited access to care, lack of health information technology, and office visit times limitations) have also been found (26)

In the West African sub region and particularly in Ghana, studies have identified specific factors such as depression, concern about disease medications, formal education, and use of herbal preparations to be associated with no adherence among hypertensive patients (27) and factors such as educational level and mode of payment to be associated with no adherence among diabetic patients (28)

Also there has been a dearth in studies to assess the level of noncompliance to medications for chronic diseases over the years, especially among patients with chronic conditions living in rural and perturbing districts in KSA. Taking

cognizance of the fact that the success of every therapeutic regimen depends on the compliance of the individual involved and that medication noncompliance is becoming widespread, we found this study to be crucial and timely. We found the overall prevalence of medication noncompliance among the patients to be 55.5%. This rate is higher than that of a similar study conducted in Northwest Ethiopia (42%) to determine noncompliance in patients with chronic illnesses (29) The highest level of compliance and in effect the lowest level of noncompliance, was recorded among patients with hypertension, 53.3%. This percentage in hypertension is close to the level, 52.3% obtained in another study at the Teaching hospital (30) and lower than 93% recorded in a similar study at KATH (30)

Bradley et al.(32) stated that because of staff shortages and high workloads within healthcare facilities, the managers find themselves having to assist nurses attend to patients, rather than engaging in clinical supervision. While Hamid et al. reported that because of staff shortages in the public health sector, management cannot afford to send nurses for in-service training.(33) Although there are plans to increase health workers' productivity and performance, there are inadequate opportunities for staff to attend in-service education sessions.(34)

Nkosi et al. study reveals that although PHC clinics' area managers are appointed to supervise and support their clinics, they do not visit the clinics as frequently as recommended. This undermines clinical supervision as a quality improvement initiative, whereby in-depth clinical program reviews are carried out to ascertain whether or not managers are implementing standards correctly, and to support them with necessary interventions if they are not being implemented satisfactorily. (35)

1.2. Rationale

Medication non-compliance is an ignored health problem in developing countries, It is one of the challenging global issues; non-adherence to medication results in active disease progression and increased treatment costs which have an alarming average of less than 50% of patients complying with medication instructions. Such non-compliance is considered a major challenge to effective management of most chronic diseases such as diabetes mellitus, hypertension, and dyslipidemia.

1.3. Aim of the study

To assessment of drug noncompliance among patients who are attending out patients clinics in Primary Health Care Centers, Makkah, 2019 at Makkah Al-Mokarramah.

1.4. Specific objective

To assessment of drug noncompliance among patients who are attending out patients clinics in Primary Health Care Centers, Makkah, 2019 at Makkah Al-Mokarramah.

2. Methodology

2.1 Study setting:

This study has been conducted at out patients clinics in Primary Health Care Centers, Makkah, 2019 at Makkah Al-Mokarramah

2.2. Study Population

The study population consists of Saudi out patients clinics aged 20- more than 60 years attending to outpatient clinics in Primary Health Care Centers, Makkah, 2019

2.3. Study Design

Cross-sectional, analytic study , systematic random sampling technique

2.4. Inclusion criteria:

Out patients aged 20- more than 60 years
Able and willing to participate in the study.
Take some sort of prescribed medications.

2.5 Exclusion Criteria

Out patients less than 20 years
Not able and refuses to participate in the study.

2.6 Sample size:

Using EPI info version 24 (50), the study sample size has been determined based on the following assumptions : Since there is not an official release, e.g., by the "Central Department of Statistics and Information" in Saudi, of the exact census of Makkah residents falling within the study's age category, a source population size of the same of has been assumed. (Definitely, the true population of such category is greater , also to be most conservative, the least number needed for a reasonably large sample size that allows generalizability of the study result. Knowingly, sample sizes obtained from source population sizes above are not significantly different.)

The sample size has been calculated by applying Raosoft sample size calculator based on (The margin of error: 5%, Confidence level: 95%, and the response distribution was considered to be 20%) accordingly to sample size from medical practitioners by the required sample size; (234). (male and female) and adding 10 more to decrease margin of error. After adding 5% oversampling, the minimum calculated sample has been 234. Computer generated simple random sampling technique was used to select the study participants. Data collection was done by the researcher during the October to December, 2019,

2.7 Sampling Technique:

Since all Makah centers work on walk-in basis, i.e., no pre-determined appointments, the participants to see each day has been selected using “systematic random sampling” technique . The number of participants to recruit per outpatient clinic may account up 20. Given that the interviewer’s daily capacity to see patients would not exceed 7 patients, each clinic may covered up over 4 days until the required number of patients from each clinic has been fulfilled.

2.8 Sampling method:

The study will be carried out in the city of Makkah Al-Mokarramah Makkah This study was conducted in Makkah primary healthcare centers at Saudi Arabia, and it reflects a diversified demographic profile with a considerable portion of the population comes from rural descent, while others come from an urban one. This difference translates into biological, socioeconomic and lifestyle differences in the Makkah population, using random number generator software program. The recommended sample is (234) to detect the Common reasons for drug noncompliance in patients who are attending outpatient clinics in PHC at 95% confidence level, 5% estimation error and study response rate 50%. Then to compensate for the nonresponses and not completed questionnaires, 10% was added to the sample. Therefore, the final sample size had been (234).

2.9 Data collection method:

Self-administered questionnaire has been given to all participants. Those who have trouble reading or writing the questionnaire, will be filled by the interviewer

Questionnaire:

An Arabic self-administered questionnaire has been used. It consisted of three sections. **The first** section is on the socio-demographic and presence of chronic disease, and present medication history (e.g., age and education level). **The second** sections cover common reasons of drug noncompliance (patient, medication, health care related factors). **The third** section addresses the part the possible suggestion to increase the patient level of adherence and compliance with medications.

2.10 Data Collection Technique

The researcher has visit the outpatient clinics in Makkah primary health–care centers. The researcher has given the official acceptance paper to the manager of the outpatient clinics PHC

The researcher has filled the questionnaires through the interview with patients who are attending outpatient clinics who met the inclusion criteria after taking their verbal consent. After obtaining necessary approvals, the researcher and one trained nurse used an Since. They 1st explained the objectives of the research in an easy language to the participants and gained their consents before sitting, interviewing them and filling up the questionnaires .

If one participant didn’t show up for any reason, has been replaced by the next one on walk-in basis. This process was continued until the involved participants were covered totally..

2.11 Questionnaire validity:

The investigator distributed the Questionnaire to three consultants of different specialties (family medicine, community medicine, and pharmacology) who have enough experience and interest in the subject and some amendments were done, accordingly.

2.12 Data Entry and Analysis

Data has been collected and verified, variables coded and then entered to a MS program with adequate backup. Descriptive statistics, e.g., number, proportions, cumulative proportions, mean and standard deviation, etc. has been displayed, as appropriate. Analytically, a parametric technique, e.g., t-test and ANOVA, has been attempted, as applicable, especially analyzing normally distributed variables. Otherwise, a non-parametric alternative, e.g., Man Whitney U test and ANOVA or χ^2 test of independence, has been used, as necessary. The Statistical Package for Social Sciences (SPSS) software for MS- version-24 will be used for the analysis. All tests has been conducted at level of significance $\alpha=0.05$; results with p -values <0.05 has been considered “statistically significant”.

2.12 Pilot Study

A pilot study has been done on 10 Saudi patients who meet the study’s eligibility criteria. The pilot study has been mainly help examine both the instrument’s content validity and construct validity issues, alongside with other needed information, as follows:

Test the understanding of the patient of the instruments’ questions, undergo necessary changes and modifications, accordingly,

Select the relevant variables suitable for the statistical methods to be used. Test-retest reliability assessment has been performed (e.g., assuring high correlation coefficient measurement).

2.13 Ethical Considerations

Necessary approval has been the Research Ethics Committee shall be obtained prior to the study .

A written consent has been obtained both from PHC outpatient clinics administration. The aim of the study has been explained to them. Feedback about the results has been sent to these organizations .

Consent has been obtained from each participant to voluntarily participate in the study.

Data has been treated confidentially and has been used only for the purpose of research .

2.15 Budget : Self-funded.

3. Results

Table (1) Distribution of the demographic characteristics details included (234) participant patients who are attending outpatient clinics in primary health-care

Age		
20-40		05
40-60	2	59
More than 60		36
Gender		
Female		76
Male	5	24
Education		
Illiterate		97
Primary		94
Preparatory		3
Secondary		05
University		21
Occupation		
Yes	5	97
No		03
Income		
Less than 3000SR		93
3000-6000SR	5	02
6000-9000SR		94
More than 9000SR		11

Regarding the age majority of the study groups were in the age range of (40-60) years were (43.59%) while followed by age range of (20-40) were (32.05%) .

Regarding the gender many of the respondents were male (66.24 %) while female were (33.76%).

Regarding the education status, the majority of the respondents had Secondary degree were (32.05%) while had University education were (25.21%) . Regarding the occupation the majority of them working were(61.97) Regarding the income The majority of them had an income 3000-6000SR were (44.02%) while ranged Less than 3000SR bar month were (23.93%) will the participants who are (6000-9000) were (20.94%).

Table (2)Description, duration of chronic disease, number and type of drugs

Chronic diseases		
Heart disease		8
Diabetes	7	0
Hypertension		0
Renal disease		
Liver disease		
Blood diseases		
Immunological diseases		
High fat and cholesterol		9
Hypothyroidism		7
asthma		4
Other than that		
Duration of chronic disease		
Less than 5 years		2
5-10.		2
More than 10		6
Number of drugs		
1-3.	0	1
4-6.		5
6 or more		4
Type of drugs		
Pills	3	9
Sprayer		4
Injection		
Drink		

Regarding the majority of the study showed that most of them suffer from Diabetes thin hypertension thin high fat and cholesterol were their percentage was respectively (50.0% , 41.0% , 41.9%). Regarding the duration of chronic disease the majority of the Participants who suffer from the disease less than 5 years percentage were (40.2%) followed by More than 10 , thin (5-10) years their percentage was respectively(37.6%, 22%). Regarding the number of medications the majority of the Participants who takes 1-3 drugs percentage were (64.1 %) followed by takes drugs the (4-6)time ,thin 6 or more10 in time the percentage was respectively(23.5%,12.4%).

Regarding the type of drugs the majority of the Participants who takes pills percentage were (73.9%) followed by injection, sprayer, drink, do not take medicines percentage was respectively (7.3%, 12.4%, 6.0%, 1.0%)

Table (3) Description common reasons of drug noncompliance related factors

regular taking medication		
No		1
Yes	0	9
do you forget to take your medication on time sometimes?		
No		5
Yes		5
are you not interested in taking your medicines on time?		
No	0	0
Yes		0
do I feel better, sometimes I stop taking medicines?		
No	1	8
Yes		2
do I feel bad when I take the medicine sometimes, will I stop taking it?		
No	3	1
Yes		9

Regarding regularly committed to taking medications the majority of the Participants They were committed to taking medicines the percentage were (76.9%) followed by answer not regularly were percentage(23.11%).

Regarding you forget to take your medication on time sometimes the majority of the Participants They were forget taking medicines the percentage were (64.5%) followed by They were committed to taking medicines the percentage were (34.5%)

Regarding you not interested in taking your medicines on time the majority of the Participants No, I'm interested taking medicines on time were the percentage were (85.0%) followed by not interested in taking medicines on time the percentage were (15.0%)

Regarding if I feel tired you will stop taking medication the percentage equal were (65.8%) in stopping taking and not stopping taking medication.

Regarding If I feel bad when having I taking the medicine sometimes will I stop taking medicine. The majority of the Participants I did not stop percentage were (61.1%) , followed by yes i will stop the percentage were (38.9%)

Figure (1) Description common reasons of drug noncompliance related factors

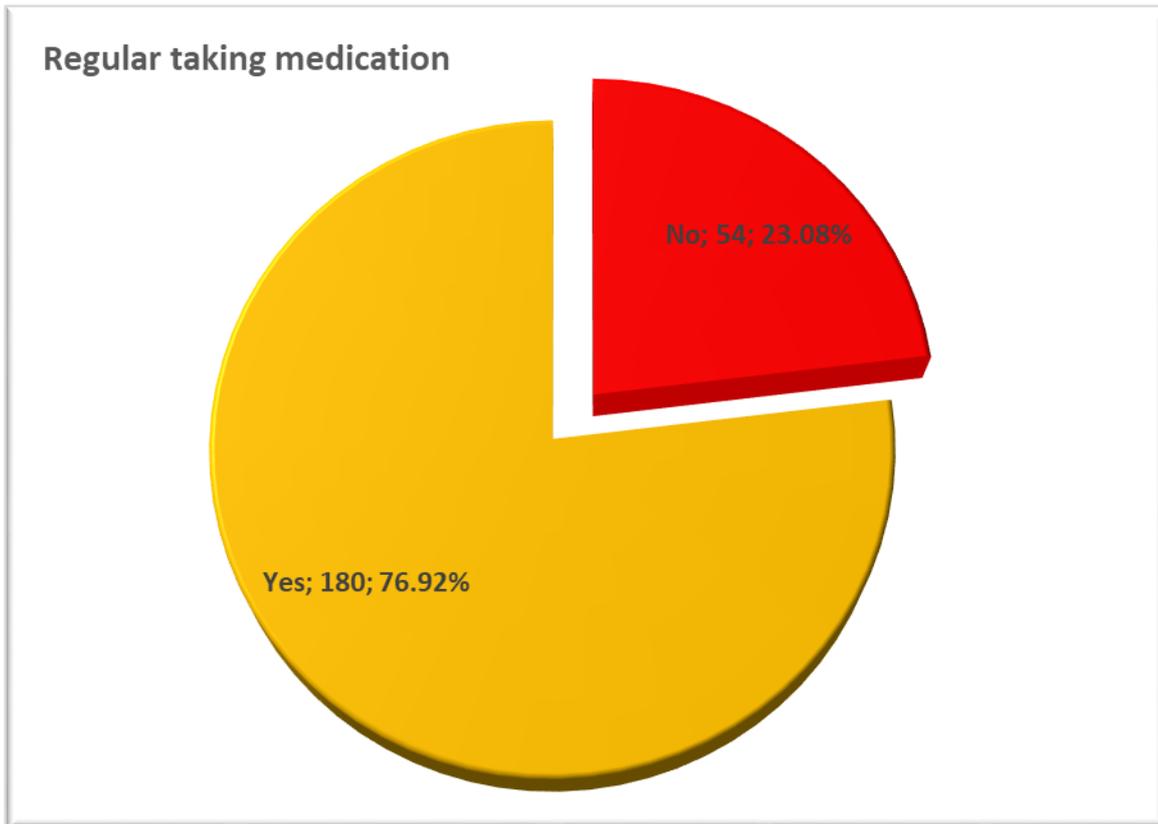


Table (4) Description the relation of socio-demographic characteristics and Regular taking medication in our study

		Total		Regular taking medication		Chi-square	
		n	%	n	%	Value	P-value
Age	40-59	105	76.05	81	76.19	607	001*
	60-69	122	87.14	122	100.00		
	70 and more than 60	136	98.53	126	91.91		
Gender	Male	176	127.64	189	170.45	26	64
	Female	125	90.38	111	88.80		
Education	Illiterate	197	142.63	133	121.66	638	001*
	Primary	194	140.74	159	144.00		
	Preparatory	13	9.41	81	73.53		
	Secondary	105	76.05	100	90.48		
	University	21	15.23	16	14.55		
Occupation	Unemployed	197	142.63	144	130.23	44	02*
	Employed	103	74.27	56	51.46		
Income	Less than 3000SR	193	140.74	185	167.74	151	001*
	3000-6000SR	102	74.27	19	17.27		
	6000-9000SR	94	68.15	6	5.45		
	More than 9000SR	11	7.91	0	0.00		

Table 5 Regarding the Patient shows a statistically significant association socio-demographic (age, education, occupation, income) and Regular taking medication with (P-value <0.001), respectively Chi-square (34.607, 72.638, 9.144, 32.151)

Regarding gender shows no statistically significant association between gender and Regular taking medication with (P-value 0.364), Chi-square (0.826)

Figure (2) Description the relation of socio-demographic characteristics and **Regular taking medication** in our study

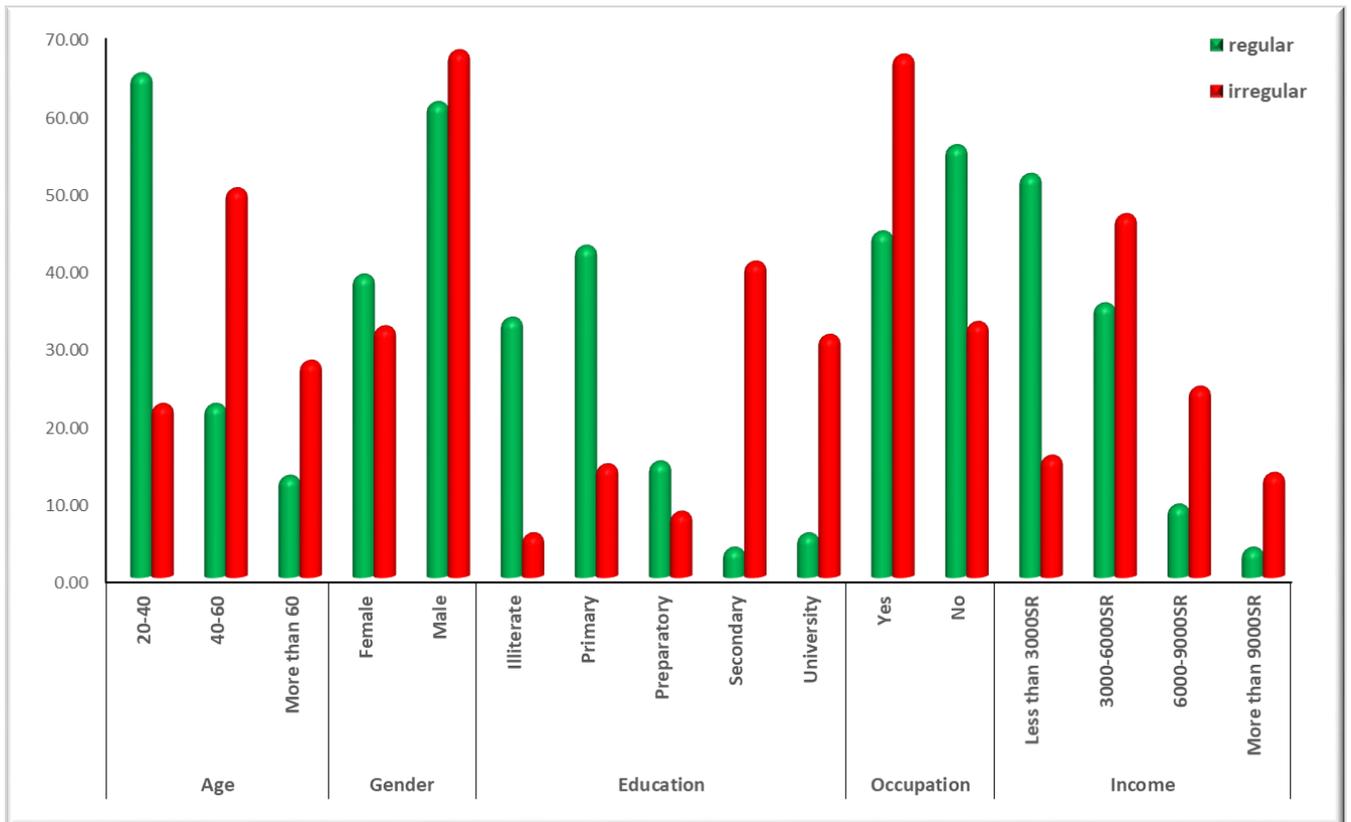


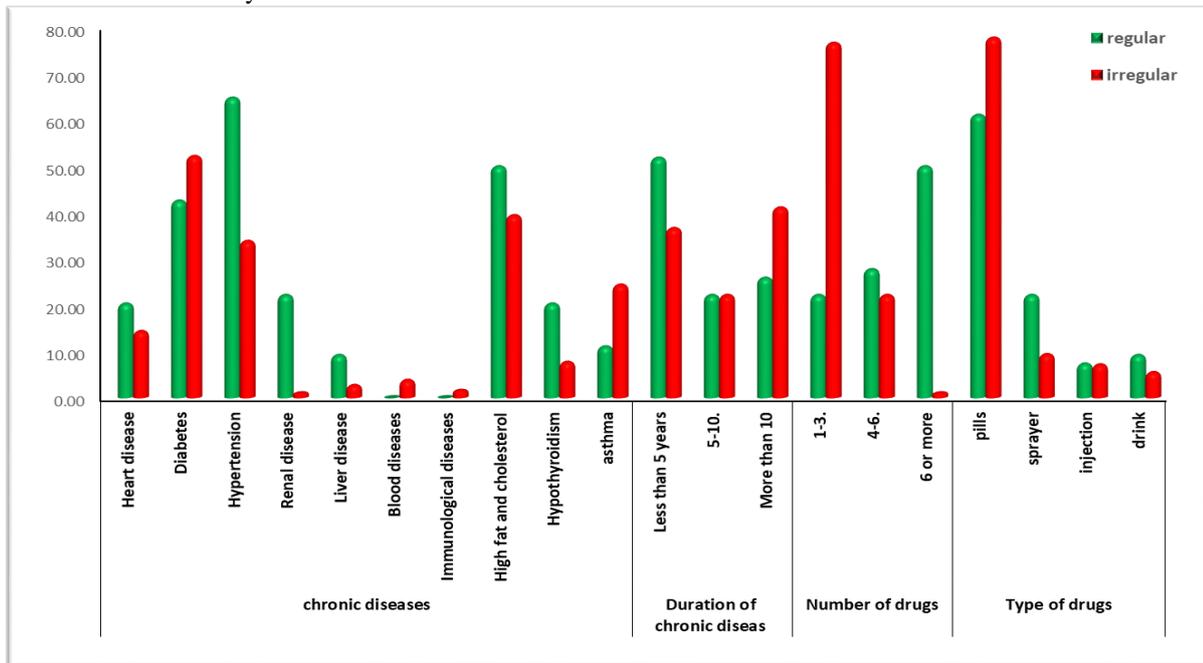
Table (5) Description the relation of socio-demographic characteristics (chronic diseases) and Regular taking medication in our study

	Total	Regular taking medication		Chi-square		
		Number	Percentage	Value	P-value	
Chronic diseases	Heart disease	8	37	44	96	95
	Diabetes	7	59	22	41	15
	Hypertension	10	81	89	420	001*
	Renal disease	22	22	1	912	001*
	Liver disease	6	6	8	66	39*
	Blood diseases	10	9	9	65	41
	Immunological diseases	10	7	7	12	40
	High fat and cholesterol	9	100	44	101	68
	Hypothyroidism	7	37	8	103	09*
Asthma	4	11	44	95	36*	
Duration of chronic disease	Less than 5 years	2	85	67	31	85
	5-10	2	22	22		
	More than 10	6	93	11		
Number of drugs	1	1	22	67	864	001*
	2	5	78	22		
	3 or more	4	100	1		
Type of drugs	Antibiotics	9	11	78	24	48*
	Anticancer	4	22	4		
	Anticoagulation	1	1	2		
	Antifungal	6	6	6		

significant association with chronic diseases in the (Hypertension, Renal disease, Liver disease, Blood diseases, Hypothyroidism, asthma) were P-value and Chi-square were respectively (P-value 0.001, 0.001, 0.039, 0.141, 0.009, 0.036) (Chi-square 16.420, 32.912, 4.266, 6.903, 4.395) and regular taking medication. While Heart disease, Diabetes, Immunological diseases, High fat and cholesterol no significant association with Regular taking medication.

regarding the duration of chronic disease no significant association with the regular taking medication but number of drugs have significant association with Regular taking medication were P-value 0.001 and Chi-square 99.864 also Type of drugs have significant association with Regular taking medication were P-value 0.048 and Chi-square 7.924

Figure (3) Description the relation of socio-demographic characteristics (chronic diseases) and Regular taking medication in our study



4. Discussion

The study shows the socio-demographic details included (234) participant patients who are attending outpatient clinics in Makkah primary healthcare centers. We enrolled in this study common reasons of drug noncompliance related factors (patient, medication, health care related factors). (Insufficient knowledge about medications, no progress, depression, sense of unusualness, weak memory, the percentage, followed by answer No (I don't trust the doctor, the Presence of sensory impairment, No social or peer support, low income, weak memory, Depression, sense of unusualness, no progress, Insufficient knowledge about medications) the percentage, of the patients were non-compliant due to the side effects of medication mainly sedation and weight gain. Similarly patients who discontinued prescribed neuroleptic medicine side effects as their primary reason for non-compliance (36). Found hopelessness as a cause of non-compliance to medication in patients. (37) Two studies also reported lack of emotional support and help from family members and friends as the causes of poor drug compliance in the patients [36] also the age is significantly associated with non-compliance ($P < 0.01$). Similarly, age is found to have significant association with low compliance which is similar with the finding reported by previous study. (28) Marital status is found to have significant association with non-compliance ($P < 0.05$). Similarly, Zito et al 29 reported unmarried having significant association with poor compliance. An association is present between income and causes of non-compliance (38). This corresponds to the findings of Hoge et al who found that in their urban-based hospital there is a strong relationship between noncompliance and social class with those coming from the lower socio-economic class. A correlation is present between noncompliance and psychiatric diagnosis ($P < 0.01$). Two studies found that noncompliance to medication were likely to be diagnosed with bipolar disorder and schizoaffective disorder, while majority of consenting patients had a diagnosis of schizophrenia. (39) These findings are however supported by other studies who found the most common diagnosis among noncompliance of medication was schizophrenia (33) are not compliant to medication due to financial problems. This is in accordance with that reported by other study. were non-compliant to medication due to no improvement in the medication. Similarly reported no improvement as a cause of non-compliant to medication. of the non-compliant were due to too much of medication. Similarly were not compliant due to too much of medication as reported. (23) Other studies who reported that married patients were more compliant to medication positively. The help and support from a spouse and this could be the reason why married patients were more compliant to medication positively than unmarried patients. (40)

5. Conclusion

This study highlighted that medication adherence is influenced by all factors. Patient counseling is required to improve patient beliefs and increase awareness of adhering to prescribed pharmacotherapy. A pharmacist can play a constructive role of a disease educator and patient counselor. Non-compliance is quite common in psychiatric patients. Medical practitioners need to be aware of it and address this problem because compliance is directly related to the prognosis of the illness. A high prevalence of non-compliance is still a problem in the treatment of elderly patients, particularly those who had positive risk factors. Further studies are needed to reduce non-compliance.

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