

Common Reasons for Drug Noncompliance in Patients Who Are Attending Outpatient Clinics in Prince Mansur Military Hospital, Taif

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Abstract Background: 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 do not 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. 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. **Aim of the study:** To investigate the reasons of drug noncompliance among patients who are attending out patients clinics in Prince Mansur military hospital. **Method:** Cross sectional study conducted at outpatient clinics in Prince Mansur military hospital, Taif city. Sample population consists of Saudi out patients aged 20-70 years attending to outpatient clinics in Prince Mansur military hospital. Our total participants were (250). **Results:** Majority of the study suffer from chronic diseases (82.3%) the Diabetes, hypertension, high fat and cholesterol were their percentage was respectively (54.7%, 48.6% and 31.2%) not heave chronic diseases (17.7%). **Conclusion:** There are numerous studies on Common reasons for drug noncompliance in patients over the years 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 many factors for example also with diet, exercise, or life style changes.

Keywords: common, reasons, drug, noncompliance, patients, attending, outpatient clinics, hospital

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experts for expressed duration. [1]

Medicine adherence can be characterized as a cessation or disappointment of appropriate prescription admission without earlier endorsement from the rewarding doctor. [2,3]

In healthcare, the commune generally used definition of compliance is "patient's behaviors (in phrases of taking treatment, following changes eating style or modification

1. Introduction

1.1. Background

Non-compliance characterized as accepting meds as exhorted and recommended by health care insurance

heaped, Physiotherapy or executing life style changes) coincide with healthcare providers' hints for fitness and scientific advice". [4] 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]. 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. [6,7]

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. [8,9]. A definitive point of any endorsed clinical treatment is to accomplish certain ideal results in the patients concerned. These ideal results are an integral part of the targets in the administration of the illness or conditions [2].

In additional, in spite of all the best expectation and endeavors with respect to the medicinal services experts, those results probably will not be attainable if the patients are non-compliant. This deficiency may likewise have genuine and adverse impacts from the viewpoint of illness management. In addition, therapeutic compliance has been a subject of clinical worry since the 1970s because of the broad idea of non-compliance with medication. Helpful consistence incorporates quiet consistence with medicine as well as with diet, exercise, or way of life changes. [10]. 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. [11] 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. [12]

Review of literatures

Prescription adherence can be characterized as accepting meds as prompted and recommended experts for the expressed span [13]. The non-adherence further outcomes in malady related intricacies and comorbidities that may build the recurrence of medical clinic confirmations, crisis visits and direct treatment costs. These immediate expenses, contingent on the medicinal services division of a nation, may either be borne by the health sector or in some cases the patient. [14]

Before we are able to formulate ways to tackle the problem of difficulty drug non-compliance, we'd like to evaluate the clinical and alternative implications of therapeutic non-compliance.

From the attitude of tending suppliers, drug compliance may be a major medical problem for 2 causes. [15]

First, non-compliance might have a significant result on medication outcomes and direct medical consequences. Non-compliance is directly related to poor treatment outcomes in patients with polygenic disease, epilepsy, AIDS (acquired immunological disorder syndrome), asthma, TB, high blood pressure, and organ transplants.

For instance, in hypertensive sufferers, bad compliance with remedy is the most critical reason for poorly controlled vital sign, therefore increasing the threat of stroke, myocardial infarction organ impairment markedly. [16]

Furthermore, other than direct budgetary effect, drug non-compliance would have indirect price suggestions because of the loss of profitability, without referencing the significant negative impact on patient's nature of life. [15]. Treatment noncompliance significantly affects morbidity, mortality, and simplicity of living during the illness. Non-compliance could also be related to patient demographics, the complexness of the medication routine, dose recurrence, antagonistic impacts, adverse effects or some combination of those. It is an across the board conviction that patients are less disciple to treatment because of declining psychological capacity. [17] Thus, therapeutic non-compliance happens once support degree individual's health seeking or maintenance behavior lacks congruity with the recommendations as prescribed by a medicinal services supplier. Alternative similar terms are used rather than compliance, and the significance is indistinguishable. For instance, the term adherence is regularly utilized reciprocally with consistence. Adherence is outlined because the ability and disposition to abide by a prescribed therapeutic plan. [18] The outlook of the patient towards the illness is additionally an important issue that may cause therapeutic non-compliance. Mostly, studies have shown that patients with a positive perspective and a supportive environment measure following instructions directions than those living alone and being depressed. [19] Significantly true for patients World Health Organization have an extended -standing history illness. [4]

Problems with therapeutic non-compliance

Result of unseen or unreported therapeutic non-compliance, doctors could modification the plan, which can increase the value or quality of the treatment, therefore additional increasing the burden on the care system. [20] In addition, to formulate effective methods to contain the matter of non-compliance, there is a desire to consistently review the factors that contribute to non-compliance. Associate understanding of the prophetic worth of those factors on non-compliance would conjointly contribute absolutely to the designing of any sickness management program. [21]

Factors have an effect on the therapeutic compliance

Many factors will have an effect on general poor compliance such as: misunderstanding of prescribed directions, frequent changes to drug regimens, multiple health care suppliers prescribing treatment, restricted religion within the drug, forgetfulness, physical difficulties limiting access to or use of medication, restricted education concerning the unhealthiness or the necessity for treatment, few symptoms, chronic unhealthiness, a sophisticated program, polypharmacy (use of multiple medications for the treatment of a patient's medical conditions), value of medication, and real or perceived adverse drug reactions. [22]

As several as two hundred factors are hypothesized to influence compliance and these factors will be classified as either intentional or unintentional. Intentional non-compliance is related to motivation and patients' beliefs

regarding taking treatment. Conversely, unintentional non-compliance is expounded to patients' understanding of directions or their ability to require their drug. There is also an overlap between these classes (e.g., folks that have an occasional perceived necessity for his or her medication might even see it as less salient and should be a lot of seemingly to forget to require their medications). [23,24]

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 investigate the reasons of drug noncompliance among patients who are attending out patients clinics in Prince Mansur military hospital.

1.4. Specific Objective

To assess reasons of drug noncompliance among patients who are attending out patients clinics in Prince Mansur military hospital.

To identify patient solutions to increase their drug compliance.

To investigate the relationship between the patient socio demographic characters and level of drug compliance.

2. Methodology

2.1 Study Setting

This study has been conducted at outpatient clinics in Prince Mansur military hospital, Taif city.

2.2. Study Population

The study population consists of Saudi out patients clinics aged 20-70 years attending to outpatient clinics in Prince Mansur military hospital, Taif.

2.3. Study Design

Cross-sectional, analytic study, systematic random sampling technique.

2.4. Inclusion Criteria

- Out patients aged 20-70 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 7 (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 Taif's residents falling within the study's age category, a source population size of the same of has be 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).

A given estimate that patients with expected frequency of having awareness of PMS = 15%. Tolerable error 5%. Confidence level = 95%. Design effect (for cluster surveys-DEFF) =1. Accordingly, a sample size (n) would be 200. In order to account for non-response and achieve more generalizable results, the investigator has be increase the sample size up to 250.

2.7. Sampling Technique

Since all Taif 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. It is assumed also that each outpatient clinic has seen 20-25 patients on average who met our inclusion criteria, and hence the skipping rate may be determined based on that walk-in patient number. The sample population should be distributed over the selected outpatient's clinic, equally. 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 5 patients, each clinic may covered up over 4 days until the required number of patients from each clinic has been fulfilled. The spacing unit (K) between sample fractions has been. The first patient to select the beginning of each working day has been randomly selected from the first arriving 2 patients, and then every 4th patient has been invited until the entire 5 patients had been interviewed, by the end of the day. The procedure repeated daily in each clinic until the entire sample population all had been covered over.

2.8. Sampling Method

Taif city has military hospitals, among which Prince Mansur outpatients clinics will be selected, using random number generator software program. The recommended sample is (200) to detect the Common reasons for drug noncompliance in patients who are attending outpatient clinics in Prince Mansur military hospital, Taif 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 (250).

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 Prince Mansur military hospital, Taif

The researcher has given the official acceptance paper to the manager of the outpatient clinics in Prince Mansur military hospital, Taif

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 all Taif centers work on walk-in basis, i.e., no pre-determined appointments, the participants to see each day has be selected using "systematic random sampling" technique.

To make interviews with each participant in the waiting area near the clinic. 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-20 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 of the Armed Forces Hospitals in Taif, shall be obtained prior to the study. A written consent has been obtained both from Prince Mansur military hospital, Taif region branch and 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.

2.14. Expected Study Limitation

We expect to meet a situation where some participants may not be so willing to respond fully to the questionnaire's items, jeopardizing the study's response rate, and hence the results' generalizability. On our part, we will first explain to participants the importance of the study, clarify to them the exact questionnaire aim and contents, in order to remove their worries and assure confidentiality. Such action may well enhance their responses to the questionnaire's encompassed questions. Short time and limited resources.

2.15. Budget

Self-funded.

3. Results

Regarding the age majority of the study groups (Table 1) were in the age range of (20-40), years were (49.7%) while followed by age range of (40-60) were (31.3%). Regarding the gender many of the respondents were male (74.0 %) while female were (26.0%). Regarding the education status, the majority of the respondents had university degree were (59%) while had secondary education were (19.0%). Regarding the income the majority of them had an income more than (9000SR) were (46.3%) while

ranged Less than 3000SR bar month were (24.0%) will the participants who are (3000-6000) were (15.7%).

Table 1. Shows the socio-demographic details included (300) participant patients who are attending outpatient clinics in Prince Mansur military hospital in Taif Were enrolled in this study

	N	%
Age		
20-40	149	49.7
40-60	94	31.3
More than 60	57	19.0
Gender		
Female	78	26.0
Male	222	74.0
Education		
Illiterate	23	7.7
Primary	14	4.7
Preparatory	29	9.7
Secondary	57	19.0
University	177	59.0
Occupation		
Yes	176	58.7
No	124	41.3
Income		
Less than 3000SR	72	24.0
3000-6000SR	47	15.7
6000-9000SR	42	14.0
More than 9000SR	139	46.3

Table 2. Shows description presence of chronic disease, duration of chronic disease, number and type of drugs

	N	%
chronic diseases		
No	53	17.7
Yes	247	82.3
Heart disease	36	14.6
Diabetes	135	54.7
Hypertension	120	48.6
Renal disease	8	3.2
Liver disease	10	4.0
Blood diseases	6	2.4
Immunological diseases	4	1.6
High fat and cholesterol	77	31.2
Hypothyroidism	15	6.1
asthma	33	13.4
IBS	30	12.1
Other than that	30	12.1
Duration of chronic disease		
Less than 5 years	119	39.7
5-10.	90	30.0
More than 10	91	30.3
Number of drugs		
1-3.	193	64.3
4-6.	71	23.7
6 or more	36	12.0
Type of drugs		
pills	268	89.3
sprayer	35	11.7
injection	77	25.7
drink	18	6.0
Non	3	1.0

Regarding the majority of the study (Table 2) heave who suffer from chronic diseases their percentage were (82.3%). also the study showed that most of them suffer from Diabetes thin hypertension thin high fat and cholesterol were their percentage was respectively (54.7%, 48.6%, 31.2%) followed by not heave chronic diseases percentage were (17.7 %). Regarding the duration of chronic disease the majority of the Participants who suffer from the disease less than 5 years percentage were (39.7%) followed by More than 10, thin (4-6) years their percentage was respectively(30.3%,30%). Regarding the number of medications the majority of the Participants who takes 1-3 drugs percentage were (64.3 %) followed by takes drugs the (4-6)time, thin 6 or more10 in time the percentage was respectively(23.7%, 12.0%). Regarding the type of drugs the majority of the Participants who takes pills percentage were (89.3%) followed by injection, sprayer, drink, do not take medicines percentage was respectively (25.7%, 11.7%, 6.0%, 1.0%).

Table 3. Description common reasons of drug noncompliance related factors

	N	%
Are you regularly committed to taking medications?		
No	35	11.7
Some time	92	30.7
Yes	173	57.7
Did you forget to take your medication on time sometimes?		
No	84	28.0
Yes	216	72.0
Are you not interested in taking your medicines on time?		
No	245	81.7
Yes	55	18.3
If I feel better, sometimes I stop taking medicines.		
No	150	50.0
Yes	150	50.0
If I feel bad when I take the medicine sometimes, will I stop taking it?		
No	173	57.7
Yes	127	42.3

Regarding regularly committed to taking medications the majority of the Participants They were committed to taking medicines the percentage were (57.7%) followed by some time percentage were (30.7%) but answer not regularly were percentage(11.7%). Regarding you forget to take your medication on time sometimes the majority of the Participants They were forget taking medicines the percentage were (72.0%) followed by They were committed to taking medicines the percentage were (28.0%). 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 (81.7%) followed by not interested in taking medicines on time the percentage were (18.3%). Regarding if I feel tired you will stop taking medication the percentage equal were (50.0%) 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 (57.7%), followed by yes I will stop the percentage were (42.3%)

Table 4. Description common reasons of drug noncompliance related factors (patient, medication, health care related factors).

	Yes		No	
	N	%	N	%
Patient related factors:				
Low income	86	28.7	214	71.3
Presence of sensory impairment	55	18.3	245	81.7
Weak memory	105	35.0	195	65.0
Insufficient knowledge about medications	139	46.3	161	53.7
Depression, sense of unusualness	119	39.7	181	60.3
No progress.	126	42.0	174	58.0
No social or peer support.	73	24.3	227	75.7
I don't trust the doctor.	40	13.3	260	86.7
Medication related factors				
Too much medication.	159	53.0	141	47.0
Too long time.	129	43.0	171	57.0
Complexity of medication.	97	32.3	203	67.7
Improper timing.	118	39.3	182	60.7
Not available.	125	41.7	175	58.3
Health care relate factors				
Negative physician attitude.	28	9.3	272	90.7
Less availability of health centers.	69	23.0	231	77.0
Patients suggest enhancing his compliance				
Change the form of drug.	182	60.7	118	39.3
Regulate the time of doses.	242	80.7	58	19.3
Multidrug in one bill.	255	85.0	45	15.0
Take advice from more than one doctor.	154	51.3	146	48.7
Social and emotional support	256	85.3	44	14.7

Regarding Patient related factors the majority of the Participants answer Yes the (Insufficient knowledge about medications, no progress, depression sense of unusualness, weak memory the percentage was respectively (46.3%, 42.0%, 39.7%, 35.0%) 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 were respectively (86.7%, 81.7%, 75.7%, 71.3%, 65.0%, 60.3%, 58.0% and 53.7%). **Regarding Medication related factors** the majority of the Participants answer Yes the Too much medication, Too long time, Not available and Improper timing) percentage were respectively (53.0%, 43.0%, 41.7% and 39.3%) followed by answer No (I Complexity of medication, Improper timing, Not available, Too long time, Too much medication) the percentage were respectively (67.7%, 60.7%, 58.3%, 57.0% and 47.0%). **Regarding Health care relate factors** the majority of the Participants answer No the (Negative physician attitude and Less availability of health centers) percentage were respectively (90.7% and 77.0 %) followed by answer Yes (Less availability of health centers, Negative physician attitude) the percentage were respectively (23.0%, 9.3%). **Regarding Patients suggest enhancing his compliance** the majority of the Participants answer Yes the (Social and emotional support, Multidrug in one bill. Regulate the time of doses, Change the form of drug) percentage were respectively (85.3%, 85.0%, 80.7%, 60.7%) followed by answer No (Take advice from more than one doctor, Change the form of drug, Regulate the time of doses) the percentage were respectively (48.7%, 39.3% and 19.3%).

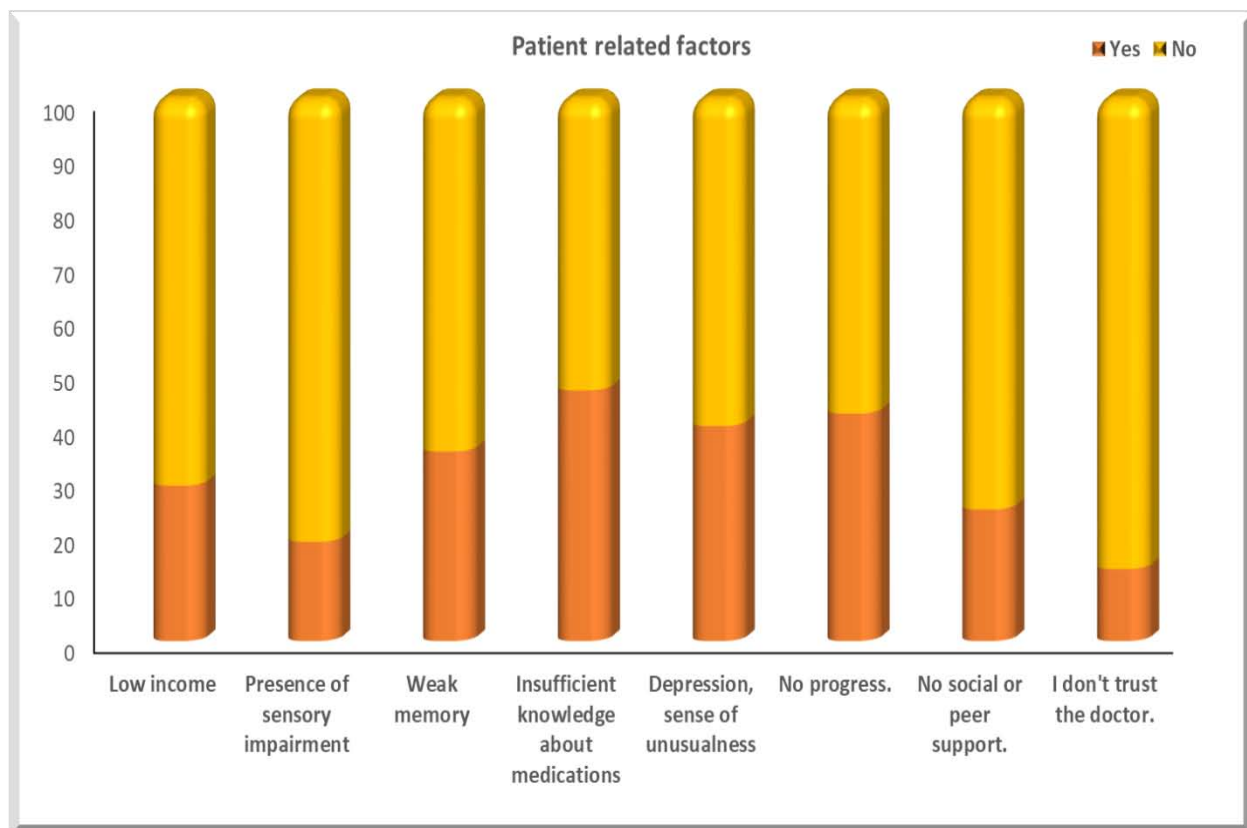


Figure 1. Patient related factors

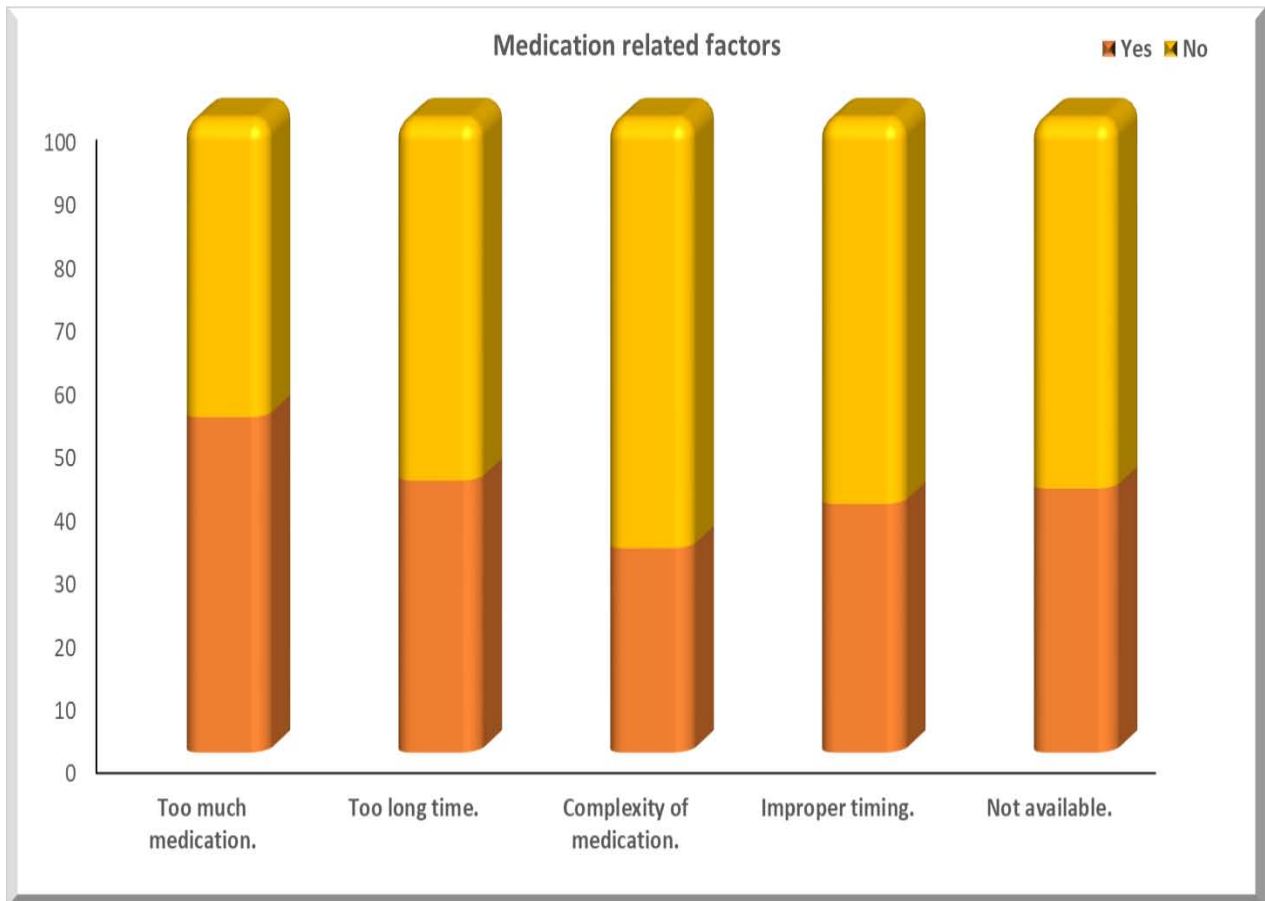


Figure 2. Medication related factors

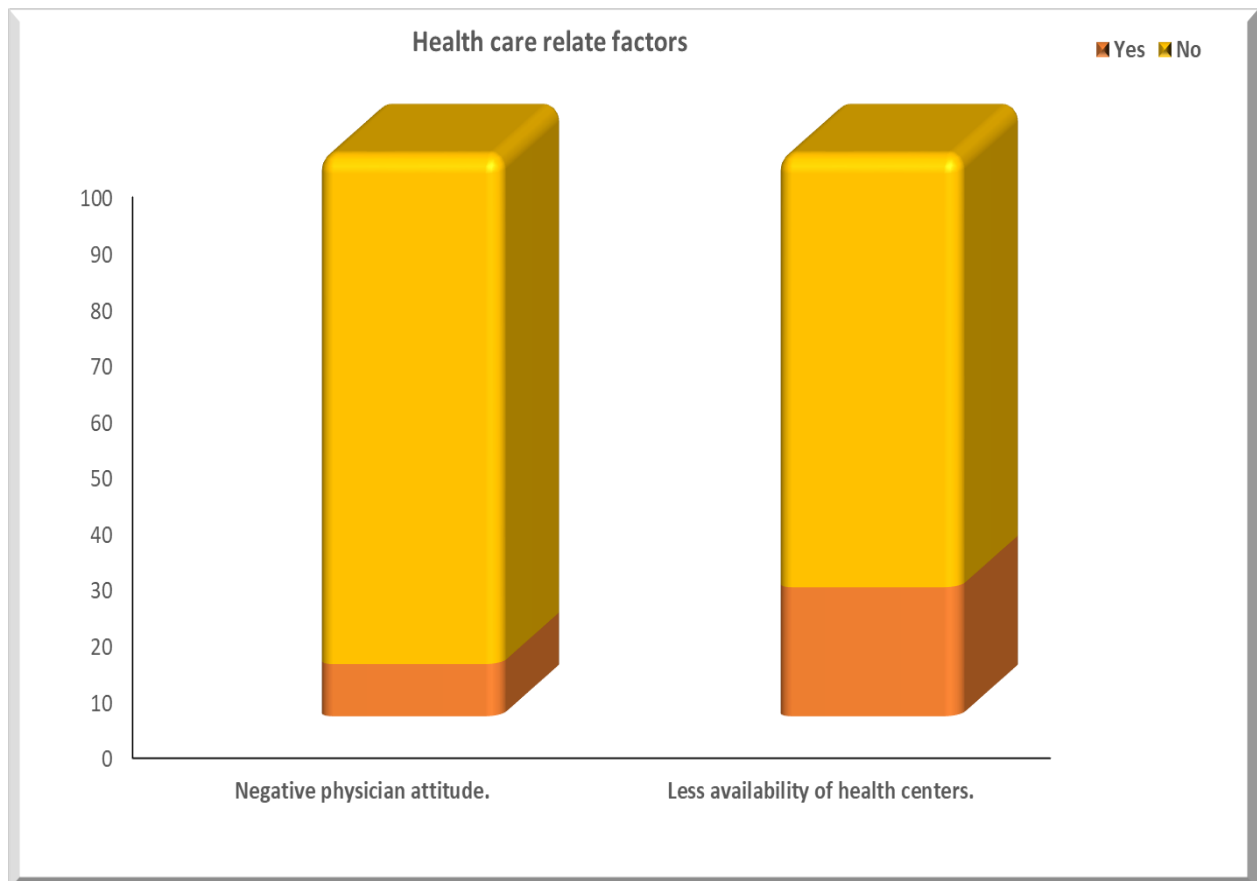


Figure 3. Health care related factors

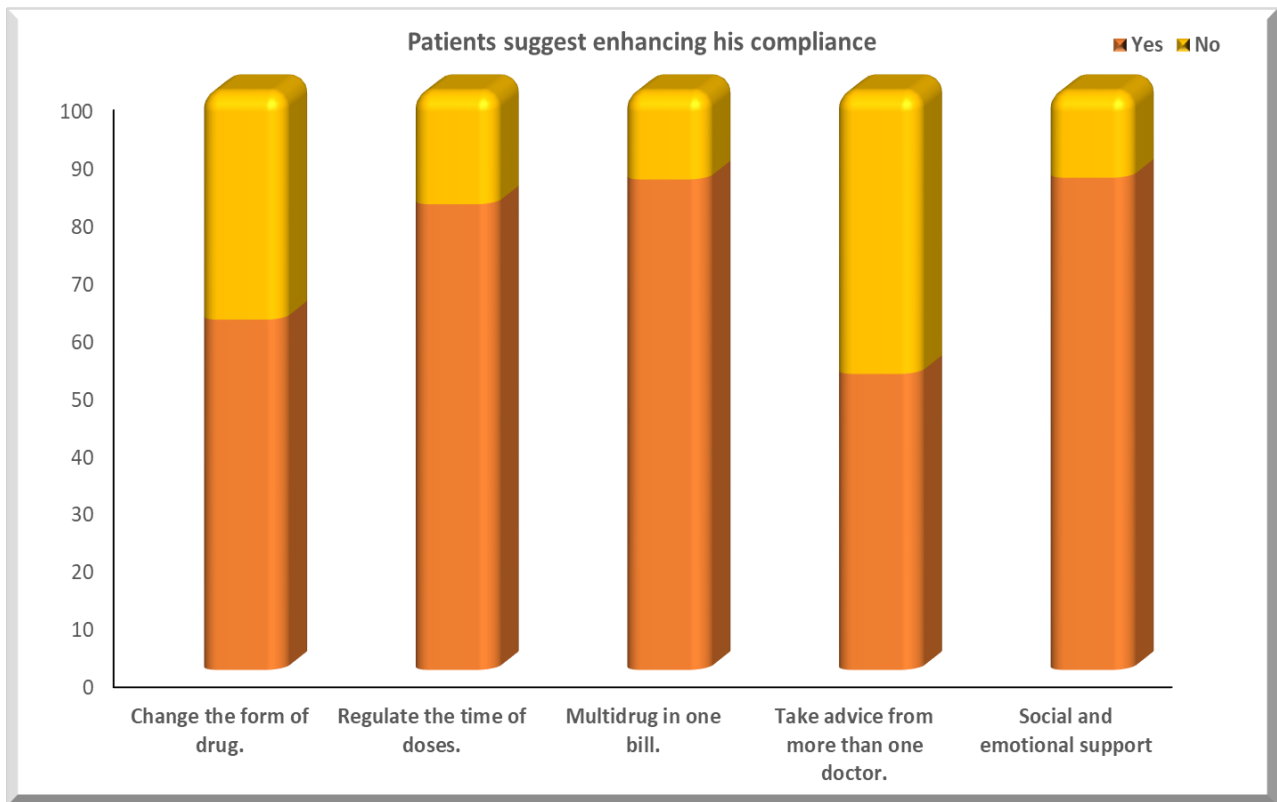


Figure 4. Patients suggest enhancing care related factors

Table 5. Description the relation of socio-demographic characteristics (Age) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study

	Age						Chi-square	
	20-40		40-60		More than 60		X ²	P-value
	N	%	N	%	N	%		
Patient related factors								
Low income	49	57.0%	21	24.4%	16	18.6%	3.147	0.207
Presence of sensory impairment	21	38.2%	14	25.5%	20	36.4%	13.218	0.001*
Weak memory	51	48.6%	30	28.6%	24	22.9%	1.697	0.428
Insufficient knowledge about medications	63	45.3%	44	31.7%	32	23.0%	3.197	0.202
Depression, sense of unusualness	54	45.4%	41	34.5%	24	20.2%	1.485	0.476
No progress.	64	50.8%	32	25.4%	30	23.8%	5.144	0.076
No social or peer support.	38	52.1%	22	30.1%	13	17.8%	0.227	0.893
I don't trust the doctor.	21	52.5%	14	35.0%	5	12.5%	1.299	0.522
Medication related factors								
Too much medication.	63	39.6%	53	33.3%	43	27.0%	18.824	0.000*
Too long time.	62	48.1%	39	30.2%	28	21.7%	1.077	0.584
Complexity of medication.	38	39.2%	34	35.1%	25	25.8%	7.271	0.026*
Improper timing.	55	46.6%	44	37.3%	19	16.1%	3.427	0.180
Not available.	52	41.6%	36	28.8%	37	29.6%	15.919	0.000*
Health care relate factors								
Negative physician attitude.	19	67.9%	4	14.3%	5	17.9%	4.943	0.084
Less availability of health centers.	33	47.8%	20	29.0%	16	23.2%	1.046	0.593
Patients suggest enhancing his compliance								
Change the form of drug.	83	45.6%	62	34.1%	37	20.3%	3.071	0.215
Regulate the time of doses.	119	49.2%	77	31.8%	46	19.0%	0.155	0.925
Multidrug in one bill.	127	49.8%	83	32.5%	45	17.6%	2.446	0.294
Take advice from more than one doctor.	80	51.9%	51	33.1%	23	14.9%	3.405	0.182
Social and emotional support	133	52.0%	77	30.1%	46	18.0%	3.692	0.158

Table 5 Regarding the Patient related factors. Shows a statistically significant association socio-demographic (age) and Patient related factors with the (Presence of sensory impairment) (P-value <0.001), Chi-square (13.218). Those patient ages between (20-40) years were having the highest prevalence followed by those more than 60 years and age between (40-60) years the percentage were respectively (36.4% and 25.5%). Regarding the Medication related factors a statistically significant association socio-demographic (age) and medication related factors with the (Too much medication) (P-value <0.001), Chi-square (18.824) those patient also statistically significant association with the (Complexity of medication) (P-value 0.026), Chi-square (7.271). Also statistically significant association with the (Not available) (P-value=0.000), Chi-square (15.919). Regarding the Health care relate factors no statistically significant association socio-demographic (age) and Health care relate factors were P-value and Chi-square respectively (P-value 0.084 and 0.593), Chi-square (4.943 and 1.046).

Table 6 Regarding the Patient related factors. Shows a statistically significant association socio-demographic (gender) and Patient related factors with the (low income) (P-value 0.026), Chi-square (4.945). Regarding the Medication related factors no statistically significant association socio-demographic (gender) with (P-value >0.001 Chi-square). Regarding the Health care relate factors no statistically significant association socio-demographic (gender) (P-value >0.001 Chi-square). Regarding the

Patients suggest enhancing his compliance no statistically significant association socio-demographic (gender) and Patients suggest enhancing his (P-value >0.001 Chi-square).

Table 7 Regarding the Patient related factors. Shows a statistically significant association socio-demographic (Education) and Patient related factors with the (Presence of sensory impairment) were (P-value=0.009, Chi-square =13.630) also (Weak memory) were (P-value=0.048, Chi-square=9.612) also (Insufficient knowledge about medications) were (P-value=0.000, Chi-square=20.120) also (Depression, sense of unusualness) were (P-value=0.021, Chi-square 11.5782) also (No social or peer support) were (P-value=0.009, Chi-square=13.515). Regarding the Medication related factors. Shows a statistically significant association socio-demographic (Education) and Patient related factors with the (Too much medication) were (P-value=0.005, Chi-square (14.911) also (Too long time) were (P-value=0.000, Chi-square =24.593) also (Complexity of medication) were (P-value =0.000, Chi-square=20.352) also (Improper timing) were (P-value=0.001, Chi-square=19.970) also (Not available.) were (P-value=0.000, Chi-square=22.044). Regarding the Health care, relate factors. Shows no statistically significant association socio-demographic (Education) and Health care relate factors with the all factors. Regarding the Patients, suggest enhancing his compliance. Shows a statistically significant association socio-demographic (Education) with the (Multidrug in one bill) with were (P-value=0.000, Chi-square=20.560)

Table 6. Description the relation of socio-demographic characteristics (Gender) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study

	Gender				Chi-square	
	Female		Male		X ²	P-value
	N	%	N	%		
Patient related factors						
Low income	30	34.9%	56	65.1%	4.945	0.026*
Presence of sensory impairment	12	21.8%	43	78.2%	0.612	0.434
Weak memory	23	21.9%	82	78.1%	1.408	0.235
Insufficient knowledge about medications	29	20.9%	110	79.1%	3.552	0.059
Depression, sense of unusualness	36	30.3%	83	69.7%	1.853	0.173
No progress.	35	27.8%	91	72.2%	0.357	0.550
No social or peer support.	15	20.5%	58	79.5%	1.491	0.222
I don't trust the doctor.	7	17.5%	33	82.5%	1.733	0.188
Medication related factors						
Too much medication.	39	24.5%	120	75.5%	0.381	0.537
Too long time.	31	24.0%	98	76.0%	0.456	0.499
Complexity of medication.	28	28.9%	69	71.1%	0.612	0.434
Improper timing.	27	22.9%	91	77.1%	0.983	0.321
Not available.	39	31.2%	86	68.8%	3.012	0.083
Health care relate factors						
Negative physician attitude.	7	25.0%	21	75.0%	0.016	0.899
Less availability of health centers.	22	31.9%	47	68.1%	1.613	0.204
Patients suggest enhancing his compliance						
Change the form of drug.	48	26.4%	134	73.6%	0.034	0.855
Regulate the time of doses.	66	27.3%	176	72.7%	1.054	0.305
Multidrug in one bill.	65	25.5%	190	74.5%	0.230	0.632
Take advice from more than one doctor.	47	30.5%	107	69.5%	3.359	0.067
Social and emotional support	66	25.8%	190	74.2%	0.043	0.835

Table 7. Description the relation of socio-demographic characteristics (Education) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study.

	Education										Chi-square	
	Illiterate		Primary		Preparatory		Secondary		University		X ²	P-value
	N	%	N	%	N	%	N	%	N	%		
Patient related factors												
Low income	5	5.8%	2	2.3%	6	7.0%	23	26.7%	50	58.1%	6.679	0.154
Presence of sensory impairment	5	9.1%	5	9.1%	7	12.7%	17	30.9%	21	38.2%	13.630	0.009*
Weak memory	6	5.7%	6	5.7%	7	6.7%	29	27.6%	57	54.3%	9.612	0.048*
Insufficient knowledge about medications	14	10.1%	8	5.8%	21	15.1%	32	23.0%	64	46.0%	20.120	0.000*
Depression, sense of unusualness	16	13.4%	6	5.0%	14	11.8%	22	18.5%	61	51.3%	11.578	0.021*
No progress.	15	11.9%	8	6.3%	11	8.7%	24	19.0%	68	54.0%	7.537	0.110
No social or peer support.	0	0.0%	5	6.8%	7	9.6%	21	28.8%	40	54.8%	13.515	0.009*
I don't trust the doctor.	0	0.0%	1	2.5%	5	12.5%	9	22.5%	25	62.5%	4.779	0.311
Medication related factors												
Too much medication.	13	8.2%	7	4.4%	23	14.5%	36	22.6%	80	50.3%	14.911	0.005*
Too long time.	4	3.1%	7	5.4%	16	12.4%	38	29.5%	64	49.6%	24.593	0.000*
Complexity of medication.	7	7.2%	6	6.2%	16	16.5%	27	27.8%	41	42.3%	20.352	0.000*
Improper timing.	9	7.6%	7	5.9%	21	17.8%	26	22.0%	55	46.6%	19.970	0.001*
Not available.	14	11.2%	5	4.0%	22	17.6%	24	19.2%	60	48.0%	22.044	0.000*
Health care relate factors												
Negative physician attitude.	2	7.1%	0	0.0%	2	7.1%	8	28.6%	16	57.1%	3.163	0.531
Less availability of health centers.	7	10.1%	6	8.7%	8	11.6%	9	13.0%	39	56.5%	5.946	0.203
Patients suggest enhancing his compliance												
Change the form of drug.	12	6.6%	12	6.6%	22	12.1%	36	19.8%	100	54.9%	8.620	0.071
Regulate the time of doses.	15	6.2%	13	5.4%	24	9.9%	46	19.0%	144	59.5%	4.989	0.288
Multidrug in one bill.	13	5.1%	13	5.1%	29	11.4%	48	18.8%	152	59.6%	20.560	0.000*
Take advice from more than one doctor.	12	7.8%	3	1.9%	15	9.7%	27	17.5%	97	63.0%	6.231	0.183
Social and emotional support	18	7.0%	11	4.3%	29	11.3%	45	17.6%	153	59.8%	8.446	0.077

Table 8. Description the relation of socio-demographic characteristics (Occupation) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study.

	Occupation				Chi-square	
	Yes		No		X ²	P-value
	N	%	N	%		
Patient related factors						
Low income	54	62.8%	32	37.2%	0.846	0.358
Presence of sensory impairment	30	54.5%	25	45.5%	0.472	0.492
Weak memory	67	63.8%	38	36.2%	1.762	0.184
Insufficient knowledge about medications	88	63.3%	51	36.7%	2.302	0.129
Depression, sense of unusualness	78	65.5%	41	34.5%	3.850	0.05*
No progress.	79	62.7%	47	37.3%	1.456	0.228
No social or peer support.	50	68.5%	23	31.5%	3.842	0.05*
I don't trust the doctor.	31	77.5%	9	22.5%	6.751	0.009*
Medication related factors						
Too much medication.	95	59.7%	64	40.3%	0.163	0.686
Too long time.	74	57.4%	55	42.6%	0.158	0.691
Complexity of medication.	57	58.8%	40	41.2%	0.001	0.981
Improper timing.	73	61.9%	45	38.1%	0.820	0.365
Not available.	68	54.4%	57	45.6%	1.609	0.205
Health care relate factors						
Negative physician attitude.	17	60.7%	11	39.3%	0.053	0.817
Less availability of health centers.	43	62.3%	26	37.7%	0.493	0.483
Patients suggest enhancing his compliance						
Change the form of drug.	109	59.9%	73	40.1%	0.286	0.593
Regulate the time of doses.	140	57.9%	102	42.1%	0.343	0.558
Multidrug in one bill.	154	60.4%	101	39.6%	2.087	0.149
Take advice from more than one doctor.	99	64.3%	55	35.7%	4.120	0.042*
Social and emotional support	155	60.5%	101	39.5%	2.545	0.111

Table 8 Regarding the Patient related factors. Shows a statistically significant association socio-demographic (occupation) and Patient related factors with the (Depression, sense of unusualness) were (P-value 0.05, Chi-square 3.850). Also (No social or peer support) were (P-value 0.05, Chi-square 3.842) also (I don't trust the doctor) were (P-value 0.09, Chi-square 6.751). Regarding the Medication related factors. Shows no statistically significant association socio-demographic (occupation) and Patient related factors with the all factors. Regarding the Health care relate factors no statistically significant association socio-demographic (occupation) and Health care relate factors with all factors. Regarding the Patients suggest enhancing his compliance a statistically significant association socio-demographic (occupation) and Patients suggest enhancing his compliance with (Take advice from more than one doctor) were (P-value 0.042 Chi-square 4.120).

Table 9 Regarding the Patient related factors. shows a statistically significant association socio-demographic (income) and Patient related factors with the (Presence of sensory impairment, Insufficient knowledge about medications, Depression, sense of unusualness, No social or peer support) were the P-value and Chi-square respectively (P-value=0.045, 0.004, 0.032, 0.003) Chi-square=8.05, 13.556, 8.791 and 14.053). Regarding the Medication related factors. Shows a statistically significant association socio-demographic (income) and Patient related factors with the (Too long time, Complexity of medication, Improper timing Not available) were the P-value and Chi-square respectively (P-value

0.006, 0.001, 0.000, 0.027) (Chi-square 12.577, 15.544, 31.482 and 9.173). Regarding the Health care relate factors no statistically significant association socio-demographic (income) and Health care relate factors with all factors. Regarding Patients suggest enhancing his compliance. Shows a statistically significant association socio-demographic (income) and Patient related factors with the (Change the form of drug, Regulate the time of doses, Multidrug in one bill) were the P-value and Chi-square respectively (P-value 0.01, 0.017, 0.012) (Chi-square 11.404, 10.164 and 10.892).

Table 10 Regarding the Patient related factors. Shows a statistically significant association socio-demographic (chronic diseases) and Patient related factors with the (Low income, Depression, sense of unusualness) were P-value and Chi-square were respectively (P-value 0.023, 0.002) (Chi-square 5.192, 9.620). Regarding the Medication related factors. Shows a statistically significant association socio-demographic (chronic diseases) and Patient related factors with the (Complexity of medication) were the P-value 0.003 and Chi-square (8.744). Regarding the Health care relate factors a statistically significant association socio-demographic (chronic diseases) and Patient related factors with the (Negative physician attitude) were the P-value 0.035 and Chi-square (4.449). Regarding Patients suggest enhancing his compliance. Shows a statistically significant association socio-demographic (chronic diseases) and Patient related factors with the (Regulate the time of doses) were the P-value and Chi-square respectively (P-value 0.017) (Chi-square 5.734).

Table 9. Description the relation of socio-demographic characteristics (income) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study

	Income								Chi-square	
	Less than 3000SR		3000-6000SR		6000-9000SR		More than 9000SR		X ²	P-value
	N	%	N	%	N	%	N	%		
Patient related factors										
Low income	28	32.6%	8	9.3%	13	15.1%	37	43.0%	7.189	0.066
Presence of sensory impairment	10	18.2%	13	23.6%	12	21.8%	20	36.4%	8.065	0.045*
Weak memory	21	20.0%	17	16.2%	20	19.0%	47	44.8%	4.131	0.248
Insufficient knowledge about medications	35	25.2%	29	20.9%	25	18.0%	50	36.0%	13.556	0.004*
Depression, sense of unusualness	32	26.9%	26	21.8%	12	10.1%	49	41.2%	8.791	0.032*
No progress.	27	21.4%	26	20.6%	17	13.5%	56	44.4%	4.229	0.238
No social or peer support.	11	15.1%	17	23.3%	17	23.3%	28	38.4%	14.053	0.003*
I don't trust the doctor.	11	27.5%	9	22.5%	3	7.5%	17	42.5%	3.150	0.369
Medication related factors										
Too much medication.	38	23.9%	32	20.1%	19	11.9%	70	44.0%	5.700	0.127
Too long time.	33	25.6%	28	21.7%	22	17.1%	46	35.7%	12.577	0.006*
Complexity of medication.	24	24.7%	23	23.7%	19	19.6%	31	32.0%	15.544	0.001*
Improper timing.	31	26.3%	33	28.0%	19	16.1%	35	29.7%	31.482	0.000*
Not available.	39	31.2%	23	18.4%	15	12.0%	48	38.4%	9.173	0.027*
Health care relate factors										
Negative physician attitude.	12	42.9%	3	10.7%	3	10.7%	10	35.7%	6.049	0.109
Less availability of health centers.	18	26.1%	12	17.4%	10	14.5%	29	42.0%	0.707	0.872
Patients suggest enhancing his compliance										
Change the form of drug.	40	22.0%	35	19.2%	32	17.6%	75	41.2%	11.404	0.01*
Regulate the time of doses.	63	26.0%	42	17.4%	28	11.6%	109	45.0%	10.164	0.017*
Multidrug in one bill.	54	21.2%	45	17.6%	38	14.9%	118	46.3%	10.892	0.012*
Take advice from more than one doctor.	38	24.7%	21	13.6%	21	13.6%	74	48.1%	1.124	0.771
Social and emotional support	63	24.6%	39	15.2%	34	13.3%	120	46.9%	1.233	0.745

Table 10. Description the relation of socio-demographic characteristics (chronic diseases) and common reasons of drug noncompliance related factors (patient, medication, health care related factors) in our study

	chronic diseases				Chi-square	
	No		Yes		X ²	P-value
	N	%	N	%		
Patient related factors						
Low income	22	25.6%	64	74.4%	5.192	0.023*
Presence of sensory impairment	5	9.1%	50	90.9%	3.405	0.065
Weak memory	19	18.1%	86	81.9%	0.020	0.886
Insufficient knowledge about medications	24	17.3%	115	82.7%	0.029	0.866
Depression, sense of unusualness	11	9.2%	108	90.8%	9.620	0.002*
No progress.	22	17.5%	104	82.5%	0.006	0.936
No social or peer support.	14	19.2%	59	80.8%	0.152	0.697
I don't trust the doctor.	7	17.5%	33	82.5%	0.001	0.976
Medication related factors						
Too much medication.	25	15.7%	134	84.3%	0.878	0.349
Too long time.	26	20.2%	103	79.8%	0.963	0.326
Complexity of medication.	8	8.2%	89	91.8%	8.744	0.003*
Improper timing.	16	13.6%	102	86.4%	2.256	0.133
Not available.	20	16.0%	105	84.0%	0.409	0.522
Health care relate factors						
Negative physician attitude.	9	32.1%	19	67.9%	4.449	0.035*
Less availability of health centers.	15	21.7%	54	78.3%	1.022	0.312
Patients suggest enhancing his compliance						
Change the form of drug.	30	16.5%	152	83.5%	0.445	0.505
Regulate the time of doses.	49	20.2%	193	79.8%	5.734	0.017*
Multidrug in one bill.	43	16.9%	212	83.1%	0.755	0.385
Take advice from more than one doctor.	33	21.4%	121	78.6%	3.079	0.079
Social and emotional support	43	16.8%	213	83.2%	0.908	0.341

4. Discussion

The study shows the socio-demographic details included (300) participant patients who are attending outpatient clinics in Prince Mansur military hospital in Taif Were 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 was respectively (46.3%, 42.0%, 39.7%, 35.0%) 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 and Insufficient knowledge about medications) the percentage were respectively (86.7%, 81.7%, 75.7%, 71.3%, 65.0%, 60.3% 58.0% and 53.7%). of the patients were non-compliant due to the side effects of medication mainly sedation and weight gain. Similarly patients who discontinue prescribed neuroleptic medicine side effects as their primary reason for non-compliance [25]. Found hopelessness as a cause of non-compliance to medication in patients. [24] 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 [25] 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] (See Table 3, Table 4, Table 7, Table 8, Table 10).

5. Conclusion

This study highlighted that medication adherence is influenced by allot factors. Patient counseling is required to improve patient beliefs and increase awareness of adhering to prescribed pharmacotherapy. A pharmacist can play 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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