RESEARCH ARTICLE

PATTERN OF DRUG USE AMONG THE PHYSICIANS AND THE PUBLIC.

Abdulraouf Sami Almajhad, Eisa Naji Almutairy and Sultan Thani Almutrafi.

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Manuscript Info	*Abstract*
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Background: The medications are chemical substances intended for limited goals. Some patients take medications without prescriptions and consultation of doctors. Some of them used to use these drugs frequently with long time, and some compare their conditions with others who have similar complaining or symptoms. As a result of this, most of the patients have unpredictable and undesirable effects of these drugs. These effects vary in their seriousness from minor to dangerous or even life-threatening.

Because of the dangers of this phenomenon on the healthy field and community, we want in this research briefly to highlight on the proportion of patients who use drugs without prescriptions, the main causes, and the unwanted effects that some patients have. We hope that we use the information obtained from this research to design a proper education program for the people to orient them about the dangers of this phenomenon on the health.

Objectives: To describe the pattern of drug prescription among Primary Health Care Physicians, the factors associated with public use of drugs without prescription and the awareness of the people regarding hazard of using non-prescription drugs.

Methods: We conducted a cross sectional descriptive study in Riyadh and Qassim, KSA to describe the factors associated with public use of drugs without prescription and describe the awareness of the people regarding hazard of using non-prescription drugs including male, female, Saudi, and non-Saudi persons of any age who were eligible to participate. The sample included 320 patients who had used drugs without prescription. We collected information on demographic variables, personal and socioeconomic data, and types of drugs, and diseases, signs and symptoms that usually motivate people to take non prescription.

Results: The total number of patients was 320 with 96.87% male (n=310) and 3.17% female (n=10). The mean age was 27 years. The distribution of patients was 40% from Al Qassim (128/320) and 192 from Riyadh (192/320). The most cause that guides the patients to take drugs without prescription is headache. 45.6 % of the patients used drug without prescriptions based upon their previous experience. The reasons for not going to the hospitals: 37% of them said because of the same drugs that they used before. 54 % of the patients believe that if he repeats the same disease, he will not use the same drug which they used without a prescription.

Corresponding Author:- Abdulraouf Sami Almajhad.

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Conclusions: The study concludes that a large number of people in the society use some types of medicines without consulting the doctor based upon their previous experience in the use of these drugs and the absence of any side effects to it. Most of these commonly used drugs are analgesics and antibiotics which lead to resistance by these drugs. Public awareness should be increased about the risks of using drugs without a prescription as well as the seriousness of some diseases perceived by the society as mild diseases.

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Introduction:-

Over time, diseases are increasing around the world. Medical science did not stand without finding appropriate solutions for the treatment of those diseases. So it is better to the patients to communicate with doctors when they become sick to confirm the diagnosis. Then, prescribe the appropriate drugs and doses for the patient.

Nowadays, the problem is finding a prescription that does not carry the name, or even consults from a doctor. Not surprisingly, somebody has to ensure some to do with the task of the doctor in prescribing the drugs to patients. In this time, pharmacies become the place to diagnose the disease and prescribe medicine together. Patients go directly to the pharmacy.

A common problem faced by our society which is taking the drugs without a prescription. The patient may take the same drugs due to previous experience or by the advice of some friends, or through the use of several websites.
 Some people do not know that the use of medications without a prescription may recover their disease sometimes or have harmful effects if we had taken them to treat the same disease. Furthermore, it may lead to very serious symptoms if given to another patient who has the same disease. The biggest problem in taking the medication without a prescription are older persons who believe that a certain drug works if taken to treat several diseases and at the same dose and this is what lead to serious symptoms affecting the treatment process of their life.

There have been some patients who need to take the decision to choose products in the selection of treatment especially with this vast amount of information and products available to them. This may vary from country to country. The range of medicines or treatments sold in the world can be classified into two groups. The first group is prescription drug. And the second group is nonprescription drug which is taken without a prescription and this group is sometimes called (Over The Counter *OTC*).

We can define the OTC as any medication can the patient buy without prescription and find in many places like pharmacies or supermarket. But it does not mean that those drugs will not be harmful or have side effects. Every medication will be a harmful to the patient if he or she use it wrongly or taken more than one medication at the same time as it may decrease the effectiveness of the drug. Therefore, it is preferred to consult your doctor before use.

For example (antimicrobial drugs - penicillin), Researchers (2006) surveyed the populations of 19 European countries to see the prevalence of antimicrobial drug self-medication in the previous 12 months. They randomly selected 1,000–3,000 adults in each country, and found that the prevalence of actual self-medication varied from 1 to 210 per 1,000, and the cause of most of the cases is throat symptoms[1].We notice that roughly between 4 adults, 1 is self – medication and this is surely a dangerous ratio[2].

Other research in Spain to identify the sociodemographic factors associated to self-medication and undesirable self-medication, a cross-sectional study was carried out using a sample (n = 20,311) representative of the population of adults of 16 years of age and older in Spain[3]. The prevalence of self-medication in the sample was 12.7% during the two weeks preceding the interview[4]. Self-medication is more prevalent among women, persons who live alone, and persons who live in large cities[5]. For persons who reported acute disorders, self-medication prevalence was higher among those with higher educational levels[6]. The prevalence of undesirable self-medication in the sample was 2.5% during the two weeks previous to the interview[7]. Undesirable self-medication is twice as common among persons older than 40 years, as compared to persons younger than 27 years[1]. Undesirable self-medication prevalence is 53.0% higher among those who live alone as compared to those who live with their partner (95% confidence interval (CI): 15.2–103.2) and 36.8% higher among students as compared to full-time workers (95% CI: 1.9–83.5). People

over 40 years of age, people living alone, and students should be the priority target populations for public health education programs aimed at improving the quality of self-medication behavior[2].

The first research concentrated in the prevalence and the pathological causes mainly while the second research talks about the prevalence and the psychological causes or life styles of the patients[3].

In our research, by similar manners, we will try to correlate between the first and the second researches. We want to see the prevalence of this phenomenon in Buraydah and Riyadh and the main causes generally which include both of the pathological and psychological causes.

Materials and Methods:-
1. *Study type:* (a cross sectional descriptive study).
2. *Study setting:* this study will be conducted in Qassim and Riyadh region.
3. *Study population:* study population will involve patients and also Physicians.
4. *Sample type:* Assuming that the problem of any characteristics related to drug use among patient is 30% with absolute precision of 5% and using a confidence level of 95% the sample size to be 320.
      4.1 For the public: 128 samples will be taken from Al Qassim and 192 samples taken from Riyadh city.
      4.2 For the physicians: 20 samples will be taken from Al Qassim and 30 samples taken from Riyadh city.
5. *Sample selection:* Suitable sample size will be included in the study based on appropriate statistical equation.
Also review the prescription items, random selection of people attending primary care center for any reason.

Data collection technique:-
Structured questioners formed of closed questions. The questionnaire includes data about:
1. Personal and socioeconomic data.
2. Data related to type of drugs that are commonly taken without prescription.
3. Questions that assess the background of patient about drugs intake "will not include the Physician".
4. Questions assess about any disease, signs and symptoms that usually motivate people to take non prescription.

Plan for data collection technique:-
1. Take the necessary permission from patient and physician.
2. The data will be collected by 10 students. They will distribute the questionnaires during the vacation.
3. Students will be responsible for collecting data from Qassim and other 6 students will be responsible for collecting data from Riyadh that each student can distribute the questionnaire from patients and physician.
4. The time needed for completeness of data collection will be 2-4 weeks.

Ensuring quality:-
Includes providing help / explanation (on doing the interview), how to fill the questionnaire items.

Data Handling, checking and storing:-
1. Numbering of the questionnaires and define the participants who will be responsible for sorting of data and place of storage.
2. Checking and emendation will be considered for completion of the data, accuracy and clarity.

Plan for data processing and statistical analysis:-
1. Quality control check: checking will be done on questionnaires for accuracy.
2. Data collected will be coded and entered into computer.
3. Count, percent, mean and standard deviations will be utilized during the description of data.

Ethical review:-
1. Obtaining an informed consent before the Start from the responsible authorities.
2. The objectives of the study will be explained to the participants with stressing on the importance of the data and its confidentiality.
3. Anonymous questionnaire.
4. No obligation to participate.
5. No sensitive questions in the questionnaire.

Assessment:-
1. Performa for the patient's data is shown in Annexure 'A'
2. Questionnaire for the physicians is shown in Annexure 'B'

Statistical analysis:-
SPSS 17.0 was used to tabulate data and statistical analysis. Chi square test and student's test were used to compare the data when needed.
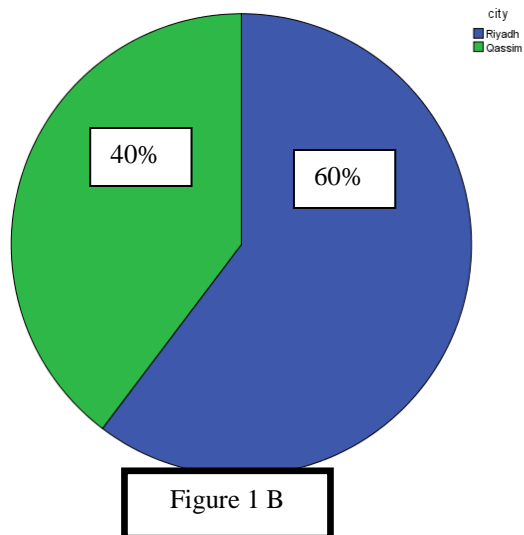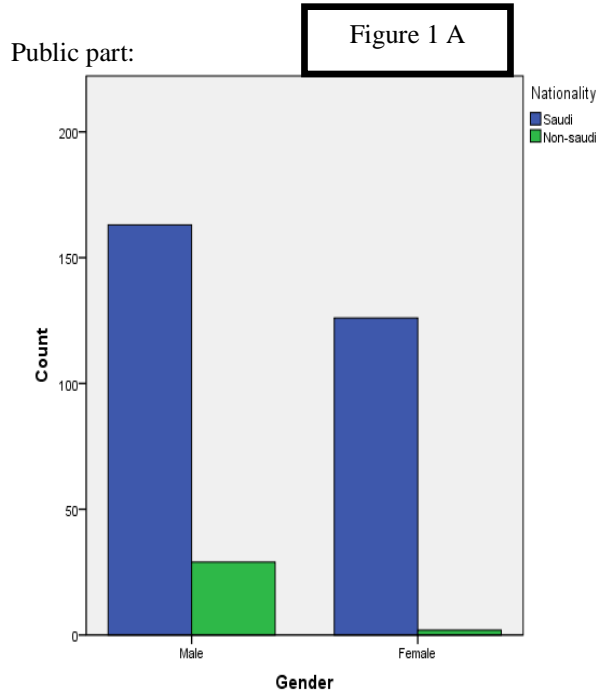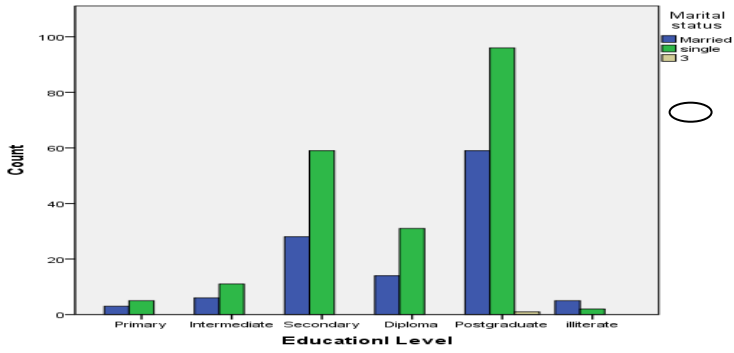
Results:-

Public part:

Figure 1 A

Figure 1 B

Figure 1B shows that:-
In this report we are taken a sample of 320, including 128 women and 192 men from Riyadh, 60% (192), and Qassim 40% (128).
93.75% are Saudi and 6.25 % are non-Saudi
96.87 % are male and 3.13 % are female.

Figure 2

As the table shows that the sample was from educated patients.
Few of them are uneducated or elementary education.

Figure 3
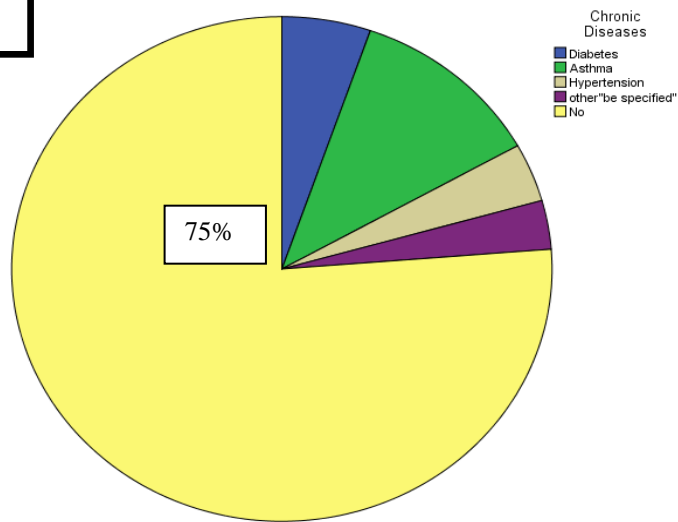
Figure 3 shows:-
75% of them do not have chronic diseases while the rest are diabetic, hypertensive or asthmatic, as in Chart IV.

Figure 4

Causes that guide u to these drugs
- headache
- fever
- acidity
- diarrhea
- sensitivty
- disorder in respiration
- related to pregnancy
- other
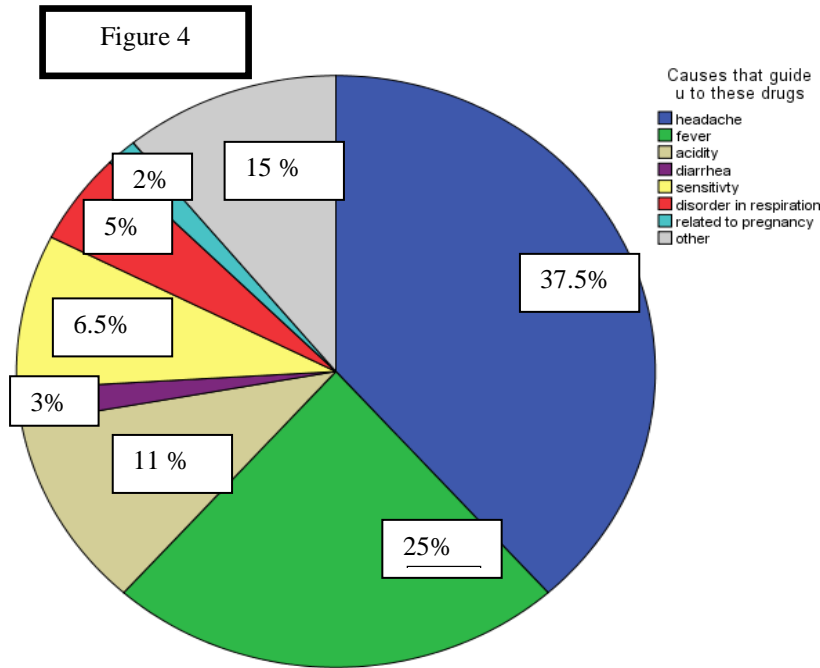
Figure 4 shows:-
37.5% was taken drugs during the last month without consult a doctor because of headaches,
while 25% of them due to fever
15% due to the acidity
6.5% because of the allergy and 5% due to respiratory diseases
3% because of diarrhea , 2% because pregnancy
11 % were for other reasons, including the purposes of beauty or slimming or fattening or otherwise.
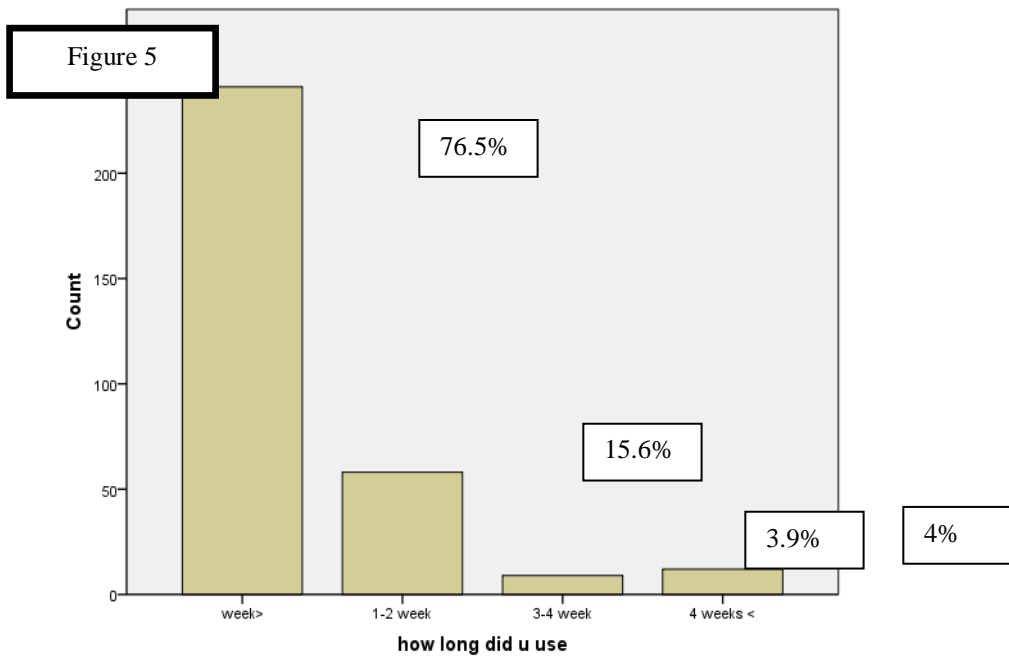
Figure 5

Figure 5 shows that:-
 76.5% of those taking these drugs less than a week. 15.6% of them between a week to two weeks,
while 3.9% was a period of between two weeks to three weeks. few of them (4%) more than four weeks.

Figure 6
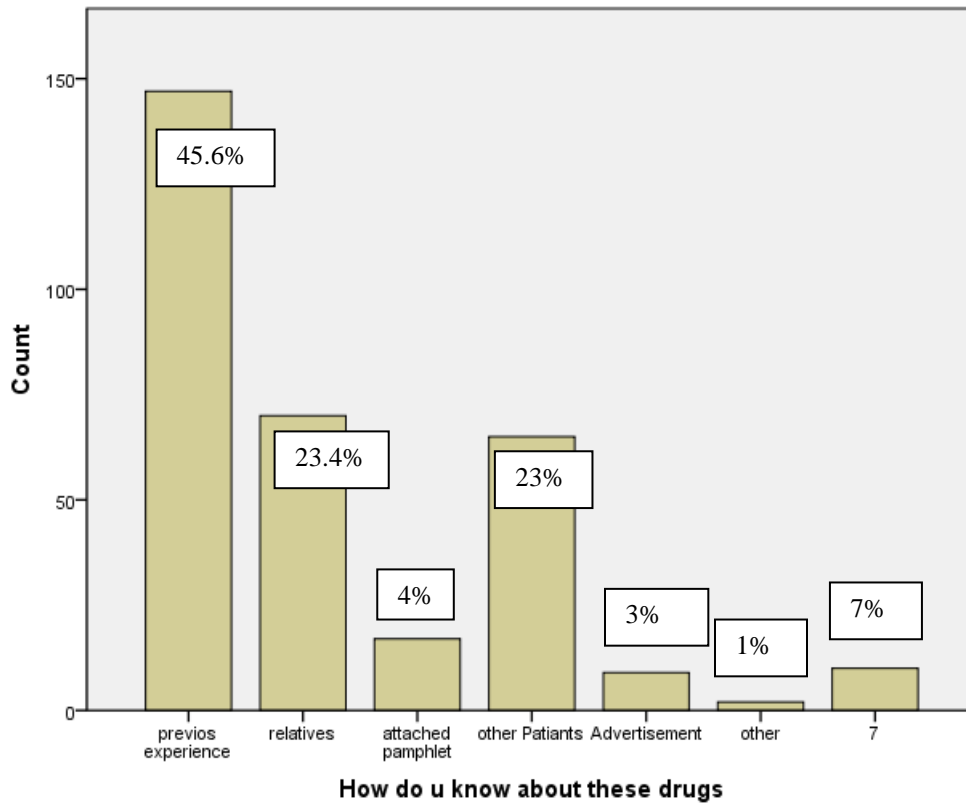
- Figure 6 shows that the way of knowing these people to these drugs and advise them as
- 45.6% of the previous experience
- 23.4% from relatives
- 23% of other patients who have tried these drugs
- 4% of the inserts, while 3% were over the ads
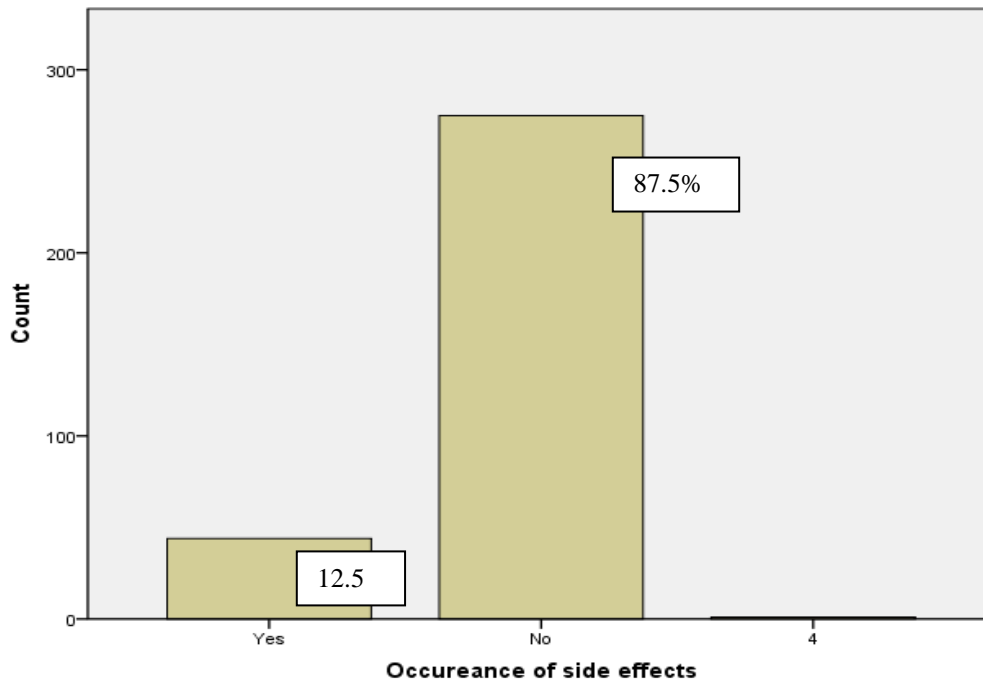- 1% Other methods such as consult your pharmacist or use the Internet.

Figure 7

Figure 7 shows:-
-         87.5 % of those people did not had side effects of these medications only 12.5% occurred to them but the side effects, Most of them minor and perhaps that's why people are taking the medication without a prescription.
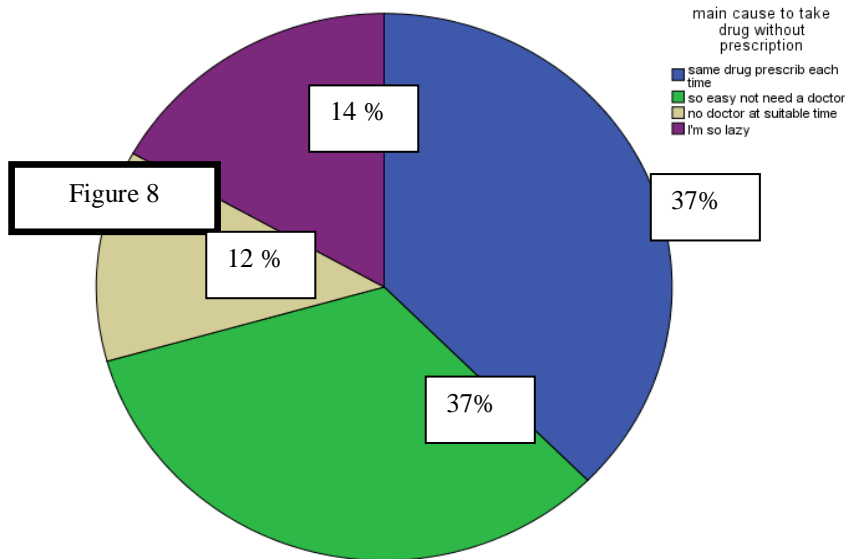
Figure 8

- The reasons for the not going to the hospitals and prescriptions doctors said 37% because the same drugs available each visit to a doctor and became known,
- while 37% believe it easy problem not need visiting the doctor
- 14% said it was because of laziness and no time to go to hospital
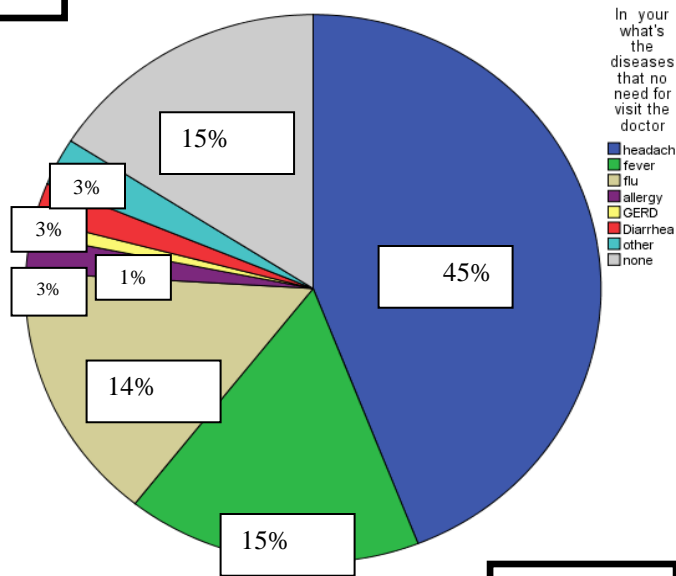- 12% was the reason he become sick and no available doctor.
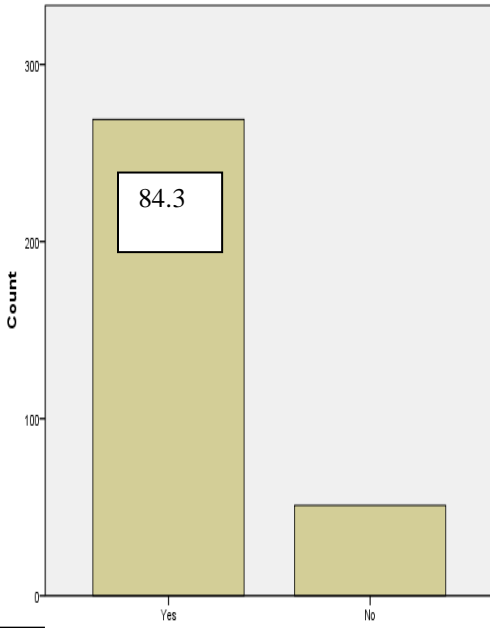
Figure 9 A

Figure 9 B

Figure 9 shows:-
- A: 84.3 %of them see that there are diseases you do not need to visit the doctor,
- B: Including 45% of them said that the headaches while 15% said Fever 14% said cold, 3% said diarrhea, 3% said allergy, 1% GERD, and 3% said other diseases.
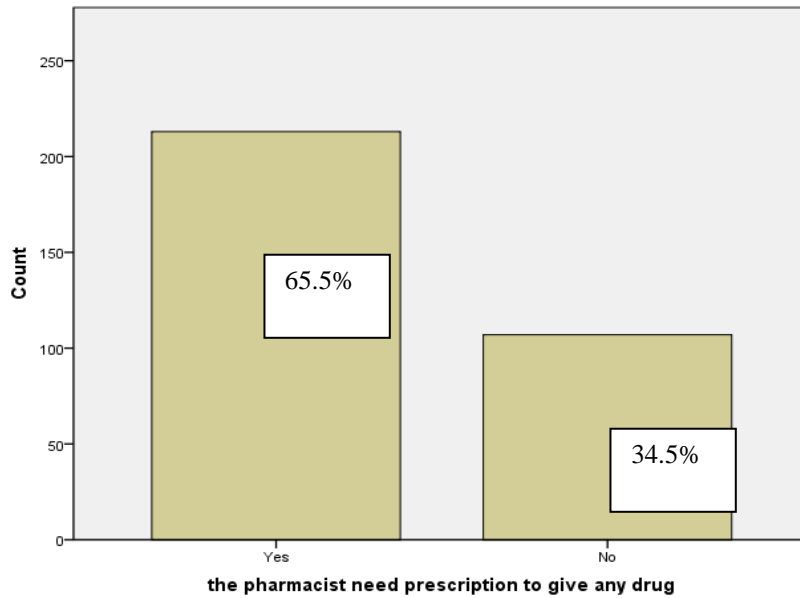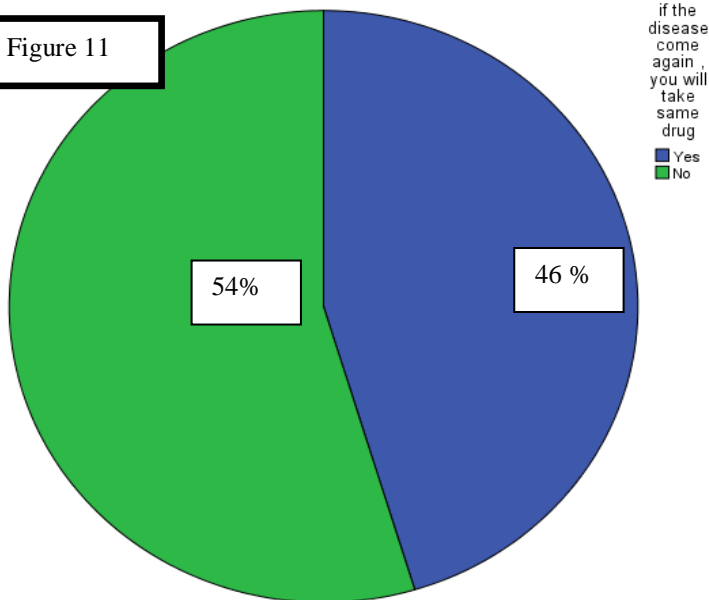
Figure 10

Figure 10 shows:-
- 65.5% of them believe that the pharmacist should not only describing something as a medical
- While 34.5% believe he has an ability to do that so of course he was an expert and trusted.


Figure 11

- 46% believe that if he repeats the same disease, he will use the same drug, which they used without a prescription.
- While 54% say they will leave of this act after a series of advices and see the damage they received.
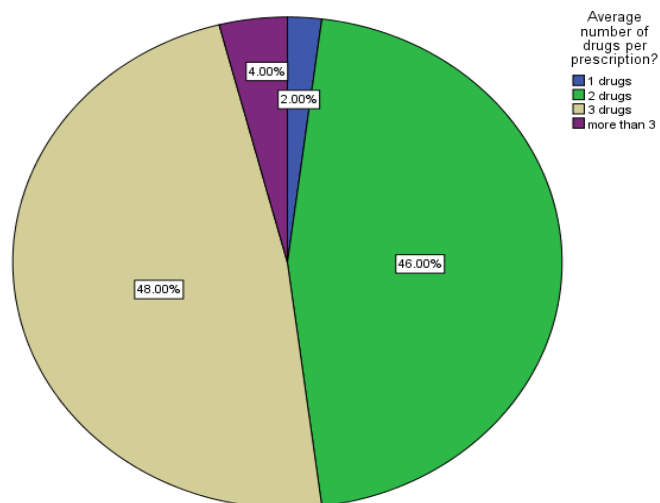
Figure 12
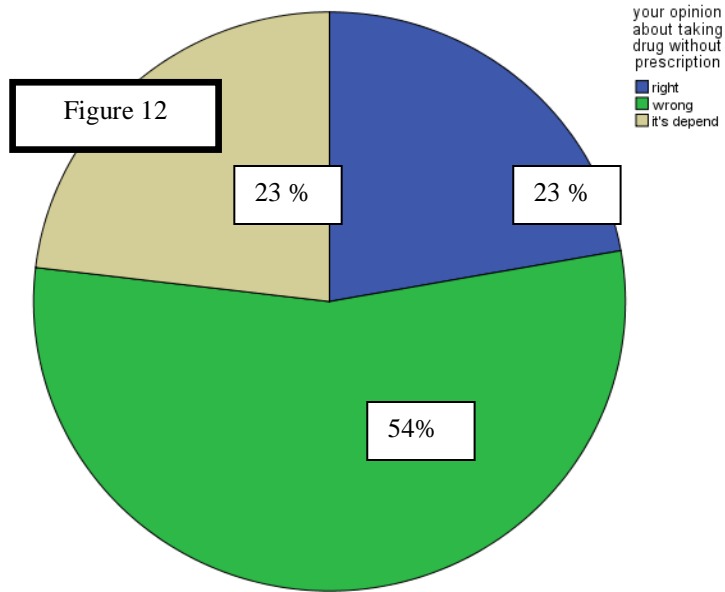
- In the end, 54% of these people believe that taking the medication without a prescription and a line is not good,
- while 23% believe it's true.
- But 23% think that depending on the disease is a disease that is easy or a serious illness and complex.

Physicians part:-
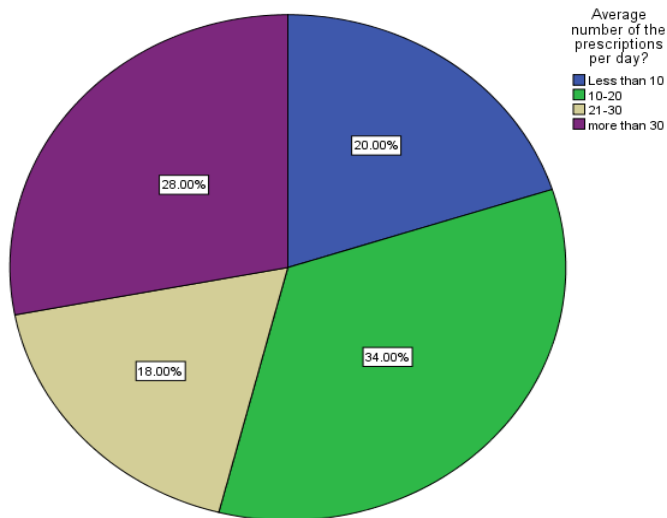
Average number of the prescriptions per day:
A-Less than 10 (20%) C-21-30 (18%)
B-10-20 (34%) D-more than 30 (28%)

Average number of drugs per prescription:
A-1 drugs (2%) B- 2 drugs (4%)
C-3 drugs (46%) D-more than 3 (46%)

Discussion:-

Almost all of result show experience with medication. So, we should tell our community about this important issue. In a study conducted in European countries which include 15548 individuals with age ranging from 10-59, 3-39% of them were found suffering from chronic disease.

In this study which was conducted in Riyadh and Qassim, 320 samples of the main age is ranging between 15-60. The sufferers from chronic disease are about 26%.

In this study with younger age, higher education and having chronic disease showing higher rate of self medication without a doctor prescription. Young patients view medicines as simple and harmless while educated people trust their knowledge about these drugs. In the other hand, Patients with chronic illnesses believed that they are used to these medicines. These results agree with result obtained from European research.

In our research we find out that the headache, fever and acidity are the diseases which are mostly associated with self medication while European study showed that the antimicrobial drugs taking without prescription are more common in throat and teeth symptoms.

By looking to the sources of self medication, the pharmacist and leftover medications are the leading source; however, the source of information about these drugs are previous experiences and relatives, are the most common in our study.

In the second part of our study (physician Questioner) we found 48% of doctors describe 3 drugs in a one prescription, and 28% write more than 30 prescriptions per day. All these numbers indicate a high need of drugs to the people. 96% write the trade name of drugs, which form the majority, indicate a good mark of presence of drugs in the markets.

Percent of question related to giving the drugs based on the result of the culture showed 40% don't write and 4 % always write. These results are significant for the treatment of the patient.

Conclusion:-

The study concludes that a large number of people in our society use some types of medicines without consulting their doctor but based upon their previous experiences. The use of these drugs and the absence of obvious side effects encourage further use again.

Most of these commonly used drugs are analgesics and antibiotics which cause resistance to these drugs. Public awareness should be increased about the risks of using drugs without a prescription as well as the seriousness of some diseases perceived by the society as mild diseases.

Competing Interests Statement:-
The authors declare that there is no conflict of interests regarding the publication of this paper.

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