ABSTRACT

Background: A drug-related problem (DRP) is defined as an event or circumstance that actually or potentially interferes with desired health outcomes. It can lead to ineffective pharmacotherapy. Most DRPs are avoidable and community pharmacies are assuming an active role in preventing and solving DRPs. Objective: to identify the awareness of community pharmacists and patients about the drug related problems. Method: a descriptive, cross sectional study conducted in Khartoum state. the data collected through visits to pharmacies (35 pharmacy) in Alhawadith street and randomly selected patients (60 patients) through checklists consisting of questions about the DRPs. Results: the study revealed poor knowledge of the pharmacists and patients about the drug related problems. Although most of the pharmacists had correctly defined drug related problems (DRPs), yet the studied community pharmacists do not give enough information to the patients regarding the correct use of the drug. Studied community pharmacists usually dispense drugs less than 10 times without a prescription during the day which will keep morbidity and mortality at a low rate Conclusion: Pharmacists in the community pharmacy have a poor knowledge about the DRPs and don’t give complete information about the correct use of the drug to the patients. Ensuring the proper use of both prescription and OTC drugs is one of the basic responsibilities of pharmacists. This specific role of pharmacists within the healthcare system needs to be more fully recognized.

KEYWORDS: drug related problems, medication related problems, community pharmacy.
INTRODUCTION

A DRP has been defined as ‘an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes’. [1] When the outcome of medicines use is not optimal, a classification for identifying the underlying drug related problems should be proposed. Most classifications of DRPs were identified through searching publications on pharmaceutical care and DRPs. No classification could be found that met all of the criteria for an optimal system. Few classifications have been validated. [2]

Many patients do not achieve the intended benefit of their medical treatment, often because of how and the frequency with which they take their drugs relative to the prescribed frequency. This is recognized as an immense problem, causing individual suffering and decreased quality of life, as well as huge societal costs because of extra doctor’s visits, hospitalizations and sick leave. This suboptimal, failed or even harmful drug therapy, also termed ‘the efficacy-effectiveness gap’. [3]

A rational use of the medicines is when the patients receive drugs appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time and at the lowest cost to them and their community.

Worldwide more than 50% of all medicines are prescribed, dispensed or sold inappropriately while 50% of patients fail to take them correctly. Common types of irrational medicine use are: The use of too many medicines per patient (polypharmacy), inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infection and inappropriate self-medication.

Inappropriate use and overuse result in serious morbidity and mortality and also result in significant patient outcomes and adverse drug reaction. Furthermore, over-use of antimicrobials is leading to increased antimicrobial resistance. Finally irrational over-use of medicines can stimulate inappropriate patients demand and lead to reduced access and attendance rates due to medicine stock-outs and loss of patient’s confidence in the health system. Cause of irrational use include lack of knowledge, skills or independent information, unrestricted availability of medicines, inappropriate promotion of medicines and profit motives from selling medicines. [4]

PCNE Classification for Drug related problems are as follows: [5]
1.1 Adverse reactions
Patient suffers from an adverse drug event eg: toxic and side effects suffered.

1.2 Drug choice problem
Patient gets or is going to get a wrong (or no drug) drug for his/her disease and/or condition eg: inappropriate drug or drug form, contraindication for drug, inappropriate duplication of therapeutic group or active ingredient, No clear indication for drug use, no drug prescribed but clear indication.

1.3 Dosing problem
Patient gets more or less than the amount of drug he/she requires eg: Drug dose too low or dosage regime not frequent enough, Drug dose too high or dosage regime too frequent, Duration of treatment too short, Duration of treatment too long.

1.4 Drug use problem
Wrong or no drug taken/administered eg: Drug not taken/administered at all, Wrong drug taken/administered.

1.5 Interactions
There is a manifest or potential drug-drug or drug-food interaction eg: Potential interaction, Manifest interaction.

1.6 Others
Patients dissatisfied with therapy despite taking drug (s) correctly. Insufficient awareness of health and diseases (possibly leading to future problems). Unclear complaints. Future clarification necessary. Therapy failure (reason unknown). One problem can have more than one cause:

1.7 Drug &/or Dose selection
The cause of the DRP is related to the selection of the drug and/or dosage schedule. The cause can be: Inappropriate drug selection, Pharmacokinetic problems, and inappropriate dosage selection.

1.8 Drug use process
The cause of the DRP can be related to the way the patient uses the drug, in spite of proper dosage instructions (on the label). The cause can be: Inappropriate timing of administration and/or dosing intervals, Drug underused/under-administered, Drug overused/over-administered, Patient unable to use drug/form as directed.

1.9 Information
The cause of the DRP can be related to a lack or misinterpretation of information. The cause can be: Instructions for use/taking not known, Patient unaware of reason for drug treatment, Patient has difficulties reading/understanding Patient Information, Patient unable to understand local language, Lack of communication between healthcare professionals.

1.10 Patient &/or Psychological
The cause of the DRP can be related to the personality of the patient. The cause can be: Patient forgets to use/take drug, Patient unwilling to change drugs, Burden of therapy, Patient suspects side-effect.

1.11 Logistics
The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism.

The cause can be:
Prescribed drug not available, Prescribing error (only in case of slip of the pen), and Dispensing error (wrong drug or dose dispensed).

The clinical goal of the prevention and resolution of a DRP is to avoid drug-related morbidity and mortality, as well as economic consequences.

Key medication-related risk factors associated with poor health outcomes, such as lack of administration routines, therapeutic duplication and discontinued medication, have been identified in Australia based on observation in patients’ homes.\(^6\) Due to drug-related problems (DRPs) that cause both unnecessary suffering and huge costs to society, many patients do not receive the intended beneficial effects of their treatment. Pharmacy practitioners have a key responsibility to respond to these problems, but more knowledge about the expected outcomes of their interventions is needed. The main focus should be on providing information about the prescription to the patient on how to use his/her medication
correctly, such as advice on administration, dosage and interactions. Drug monitoring has been practiced to a less extent.

The extent to which pharmacy practitioners identify and respond to DRPs has been shown to vary considerably among the countries. Drug-related problems (DRPs) may result in adverse drug reactions causing hospital admissions (5-17%); older patients in particular may experience such reactions during a hospital stay (6-17%). While community pharmacists can identify DRPs through clinical medication reviews, little is known about how well they perform in providing such reviews. The practice of counseling models appears to be a means to improve drug use.[7]

Awareness of the DRP may reduce or even prevent hospital admission due to DRP.

1.12 Justification
This study is undertaken to evaluate the awareness of community pharmacist and patients about Drug Related Problems (DRPs) and to change the community pharmacist thought process to focus on the patients rather than a drug or product.

1.13 Hypothesis
Pharmacists and patients are not aware about the drug related problems which increase the hospital admission due to DRPs.

1.14 Objective
1.14.1 General Objective
To assess the awareness of community pharmacist and people or patients about drug related problems.

1.14.2 Specific Objectives
To identify the spectrum of DRPs encountered in community pharmacies in Khartoum state.
To assess the knowledge of community pharmacist and the people about the drugs, adverse drug reaction and side effects of the drugs.

To demonstrate the pharmacist's role in ensuring safe and efficient use of medicines in daily practice in the community pharmacy setting. To assess the means by which pharmacists identify DRPs. To evaluate whether pharmacists counsel patients while managing their prescription.
Literature review

In the south of England, 43 community pharmacists were recruited from 80 local community pharmacies; 37 completed clinical pharmacy training to provide medication reviews for elderly patients who were receiving prescriptions for 4 or more medicines from local general practices. Eleven trained pharmacists withdrew and did not provide any reviews. As part of quality assurance, a clinical pharmacist reviewed all care plans and referrals written by the community pharmacists and, if required, amended referrals before they were sent to the patients' family physicians with recommendations. The referrals written by the community pharmacists were compared with those written by the clinical pharmacist and were deemed to be accurate or incomplete (the community pharmacists could provide verbal information to the physicians) if the observations of DRPs and suggestions to solve them were beneficial to patients. Incorrect or missing observations and suggestions were considered non-beneficial to patients. The result was; the performance assessment was based on a sample of 244 referrals written by 20 community pharmacists. The clinical pharmacist identified 908 DRPs and suggested 1489 solution; the community pharmacists beneficially identified 75% of these DRPs (1% were incorrectly identified and 24% were missed) and suggested 58% of the solutions (6% were incorrectly suggested and 36% were missed). The community pharmacists beneficially identified most DRPs and suggested many solutions. However, the assessment may underestimate the community pharmacists' abilities, as it relied on the records they kept and was based on a gold standard. While the pharmacists were self-selected, this study provides valuable insight into trained community pharmacists' clinical medication review performance.

Patients in 69 community pharmacies in Berlin were surveyed using a checklist for quality assurance of DRP detection in order to enable quantitative detection. An expert committee assessed the safety-relevance of detected DRPs by use of an algorithm. Logistic regression analysis was applied to investigate the influence of different risk factors. The result was; of the 3040 surveyed patients, 638 (21.0%) were affected by DRPs. Among these, 455 (71.3%) had problems of low, 170 (26.6%) of significant and 13 (2.0%) of high safety-relevance.

Significant risk factors identified were self-medication and new medication, especially new prescriptions. Age, gender and the number of dispensed drugs had little influence on occurrence of DRPs. The two major groups of DRPs were therapeutic errors, often correlating with self-medication, and information problems, often correlating with new
medications. Drug classes most frequently associated with DRPs were analgesics/NSAID, antibiotics, nasal preparations and cough medications. DRPs are frequent among patients in German community pharmacies. Advanced research in this field and implementation of methods for quality assurance of pharmaceutical counseling, that is exhaustive DRP detection, may improve the safety of drug therapies significantly. In particular, pharmaceutical counseling is an important instrument for assuring treatment appropriateness and safety of OTC drugs.\[9\]

In 2005, a nationwide survey in Germany was conducted in community pharmacies to record all identified DRPs. Participating community pharmacies were free to select one week within the designated study period (February-May) and were instructed to record basic statistics (eg, number of patient interactions, number of prescriptions filled/nonprescription [over-the-counter; OTC] drugs dispensed per week), as well as patient-, problem-, and intervention-related data (eg, patient age and sex, whether a prescription-only or OTC drug was involved in the DRP, the time needed for problem resolution). DRPs were categorized using a modified version of the PI-Doc (problem-intervention-documentation) classification system. The result was; Community pharmacies that participated in the study (N = 1146) documented 10,427 DRPs (9.1 DRP per pharmacy per week). A broad spectrum of DRPs was identified, with 9 of 10 cases involving prescribed medicines. DRPs arose on 3 primary levels: the prescription-, the patient- and the delivery level. Overall, drug-drug interactions were the most frequently reported DRP (8.6%) and according to community pharmacies, more than 80% of identified DRPs could be resolved completely. The prescribing physician was contacted in 60.5% of all such cases. Median time needed for solving a DRP was 5 minutes. In this study they found that Pharmacists in the community pharmacy setting are well suited to identify and resolve DRPs.

Ensuring the proper use of both prescription and OTC drugs is one of the basic responsibilities of pharmacists. This specific role of pharmacists within the healthcare system needs to be more fully recognized.\[10\]

**METHODOLOGY**

3.1 Study design

descriptive, cross sectional community-based study.
3.2 Study duration
October/2010-july/2011.

3.3 Study area
Alhawadith Street at Khartoum state.

3.4 Study population
a) Target population: pharmacists in community pharmacies in Khartoum state and patients exiting from pharmacies in Khartoum.

b) Study population: conveniently selected Sudanese community pharmacists and randomly selected patients who experienced DRPs.

3.5 Sampling plan
the patients sample was selected randomly to avoid bias.

3.6 Sample size
35 community pharmacies at Alhawadith Street were selected conveniently.
60 patients chosen randomly.

3.7 Data collection procedure
Primary data: collected through visits to these pharmacies. A Check list consisting of questions on DRPs will be filled according to the pharmacist response and patient’s Response. Secondary data: books, www.medscap.com, www.pubmed.com.

3.8 Data Entry & Analysis
The data collected through the checklists are entered regularly into SPSS (version 9), Microsoft excel 2007 and analyzed according to the objective of the study. The association tables were obtained using Chi Square.

3.9 Selection of pharmacists
Pharmacist working in pharmacies and patients affected from related problems (DRPs).

RESULTS
A total of 35 community pharmacists questionnaire were collected from Al-Hawadith Street. Some responses to questions were not reliable or relevant to their specific questions because
some pharmacist refused to be asked by me and preferred to answer the questions by their own in spite of their poor English languages.

Table#1: Knowledge of the studied pharmacist about the definition of drug related problems (n=35).

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>- side effects</td>
<td>31.4</td>
</tr>
<tr>
<td>- non compliance</td>
<td>8.6</td>
</tr>
<tr>
<td>- ADRs+S/E+non Compliance+untreated conditions</td>
<td>57.1</td>
</tr>
<tr>
<td>- ADRs+S/E+non compliance</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

57% of the studied pharmacists have correctly defined Drug related problems and 31% defined it as side effects of the drugs only.
Most of the prescriptions are not well written by the doctors.

Table#2: Reasons behind preventing the studied pharmacists of not keeping dispensed prescriptions (n=35).

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>patients usually refuse to leave the prescription</td>
<td>45.7</td>
</tr>
<tr>
<td>i don’t need to keep the prescriptions</td>
<td>20.0</td>
</tr>
<tr>
<td>we don’t keep records for our patients in the pharmacy</td>
<td>17.1</td>
</tr>
<tr>
<td>prescriptions per day are too many to be kept inside the pharmacy</td>
<td>2.9</td>
</tr>
<tr>
<td>medicine need refilling</td>
<td>14.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>
97% of the pharmacist don’t keep the prescription after dispensing and reason for that according to the pharmacist is because 45.7% of the patients refuse to leave the prescriptions.

71% of the studied pharmacist dispense less than 10 times/day without prescription.

Only 14% of the studied pharmacists advise the patients to report to the pharmacy if any undesirable reaction develops.
74% of the studied pharmacists refer the patients to the doctor when the patients complain from a DRP.
83% of the studied pharmacists don’t report to the health authority in case of DRP.

According to the figure, 43% of the studied pharmacist thinks that reporting a DRP is important to doctors, pharmacist and patients.

A total of 60 patients questionnaire were collected randomly.

The results were as follows:
Table#3: Medicaments used by studied patients (n=35).

<table>
<thead>
<tr>
<th>Medicaments</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAIDs</td>
<td>23.3</td>
</tr>
<tr>
<td>Dermatologic drugs</td>
<td>15.0</td>
</tr>
<tr>
<td>cardiac drugs</td>
<td>6.7</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>5.0</td>
</tr>
<tr>
<td>Respiratory drugs</td>
<td>5.0</td>
</tr>
<tr>
<td>GIT drugs</td>
<td>8.3</td>
</tr>
<tr>
<td>Anti-diabetic drugs</td>
<td>8.3</td>
</tr>
<tr>
<td>NSAIDs+Antibiotics</td>
<td>16.7</td>
</tr>
<tr>
<td>Renal failure drugs</td>
<td>1.7</td>
</tr>
<tr>
<td>Cardiac drugs+anti diabetic drugs</td>
<td>8.3</td>
</tr>
<tr>
<td>Antibiotics+anti diabetic drugs</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>
55% of the pharmacists explain the route of administration of the drug to the patients.

82% of the pharmacists don’t explain the expected side effects of the drugs to the patients.
According to Fig#16 and Fig#17, 60% of the pharmacist explained to the studied patients when to use and the duration of the dispensed drug(s).
46% of patients don’t have chronic diseases and 37% of the pharmacists did not emphasize the importance of refilling their medications for studied patients who have chronic diseases.

62% of the studied patients start taking antibiotics when they have an infection without consulting a doctor.

53% of the studied patients take their medication regularly on time.
37% of the studied patients stop taking their medication once they feel better even if the medication course was not complete.

60% of the studied patients were taking more than one drug per day.
Table 4: Association between the age group and the action taken by the pharmacist in case of reporting ADRs (n=35)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count</th>
<th>% within Age Group</th>
<th>action taken by pharmacist in case of reporting adverse reactions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young pharmacist</td>
<td>2</td>
<td>14.3%</td>
<td>modify medication</td>
<td>100.0%</td>
</tr>
<tr>
<td>Middle age</td>
<td>3</td>
<td>17.6%</td>
<td>refer to doctor</td>
<td>100.0%</td>
</tr>
<tr>
<td>Old</td>
<td>1</td>
<td>25.0%</td>
<td>reduce the dose</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>17.1%</td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

P-value = 0.024*
P-value s less than 0.05 are considered statistically significant.

Table 5: Association between the age group and the dispensing status.

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Count</th>
<th>% within Age groups</th>
<th>Dispensing status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-30 Yrs.</td>
<td>14</td>
<td>48.3%</td>
<td>by prescription</td>
<td>OTC</td>
</tr>
<tr>
<td>31-50 Yrs</td>
<td>13</td>
<td>68.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51-65 Yrs</td>
<td>12</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>65.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P-value = 0.006*
P-value s less than 0.05 are considered statistically significant.
Table #6: Association between the age group and taking the medication regularly on time.

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Taking the medication regularly on time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>yes</td>
</tr>
<tr>
<td>17-30 yrs.</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>37.9%</td>
</tr>
<tr>
<td>31-50 yrs.</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>52.6%</td>
</tr>
<tr>
<td>51-65 yrs.</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>91.7%</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>53.3%</td>
</tr>
</tbody>
</table>

P-value = 0.009*
P-value is less than 0.05 are considered statistically significant.

Table #7: Association between the age group and patients that stop taking their medication once they feel better.

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Patients that stop taking their medication once they feel better even if the medication course was not complete</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>yes</td>
</tr>
<tr>
<td>17-30 yrs.</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>51.7%</td>
</tr>
<tr>
<td>31-50 yrs.</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>31.6%</td>
</tr>
<tr>
<td>51-65 yrs.</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>% within Age groups</td>
<td>36.7%</td>
</tr>
</tbody>
</table>

P-value = 0.027*
P-value is less than 0.05 are considered statistically significant.
5.1 DESSCUSION

A drug-related problem (DRP) is defined as an event or circumstance that actually or potentially interferes with desired health outcomes. DRPs can lead to ineffective pharmacotherapy and may cause drug-related morbidity and mortality. Most DRPs are avoidable and community pharmacies are assuming an active role in preventing and solving DRPs.

The objective of this study was to assess the awareness of community pharmacists and patients about the DRPs.

The study showed that pharmacist and patients have a poor knowledge about the drug related problems (DRPs). The study also showed that community pharmacists don’t give enough information to the patients about the correct use of the medicaments when dispensing the drug.

Most of the prescriptions dispensed in Al-Hawadith Street were not well written by the doctors and this resulted in poor identification of the drug.

Although most of the pharmacists had correctly defined drug related problems (DRPs), yet the studied community pharmacists do not give enough information to the patients regarding the correct use of the drug due to the fact the pharmacies are often crowded with patients, so there is no enough time to deal with each patient individually.

Most of the studied community pharmacists said that the reason behind concealing important information such as the side effects of the drug is that the patients will refuse to take the medicine.

Studied community pharmacists usually dispense drugs less than 10 times without a prescription during the day which will keep morbidity and mortality at a low rate and this can be considered beneficial to the patients but I should bring to your attention that this study was conducted in Al-Hawadith street where there are a lot of hospitals and thus the patients which usually ask for drugs from those pharmacies are by prescription rather than OTC drugs.

Community pharmacists don’t have records for their usual costumers. This will result in poor identification of drug interactions and difficulty in determining what is the best drug for this specific patient.
Patients claim that the pharmacists don’t reveal all the information regarding the drug to be dispensed. They say that the pharmacist explained to them the route of administration, the duration and when to use the dispensed drug but they don’t give them any information about the expected side effects of the dispensed drug(s).

In case of chronic diseases, the patients said that the pharmacist do not emphasize the importance of refilling their medications. This could result in harm. If a patient don’t receive this information he/she might stop taking the medicine once it finished.

The results showed that most of the patients take their medicines regularly on time which will maintain the desired therapeutic level of the drug in plasma and they continue the medication course to completion even if they feel better. This reflects their awareness on that matter.

The results also showed that most of the patients start taking medicament without counseling a doctor when they have a minor infection such as upper respiratory tract infections. This reveals that’s the patients have a poor knowledge concerning this matter. Taking medicines without proper diagnose of the infection and the causative agents will results in drug resistance.

The study revealed that there is association between the age group and the action taken by the studied pharmacists in case of reporting ADRs (table#5). Middle aged pharmacists refer the patients to the doctor when the patients report ADRs and older pharmacists reduced the dose.

The results of this study were found to be the same as the results of the research reported previously which is conducted in 69 community pharmacies in Berlin and done by survey using a checklist for quality assurance of DRP detection and different from the results reported previously for a research conducted in England were 43 community pharmacists recruited from 80 local community pharmacies and another research conducted in Germany to record DRPS in community pharmacies.

5.2 CONCLUSION

Community pharmacists are in a unique position to decrease negative medication outcomes in patients. This can be achieved if the community pharmacists counsel the patients about the correct use of the drugs. In this study, studied pharmacist were found to be not aware about the drug related problems and don’t give counsel the patients about the correct use of drugs.
The study also showed that patients complain from the pharmacists because community pharmacist don’t give the whole information about the drug to be dispensed and do not give them enough time for counseling. Missing information such as the dose, route of administration could result in harm to the patients and non-adherence.

Awareness of the DRP may reduce or even prevent hospital admission due to DRP.

5.3 RECOMMENDATION
Based on the findings of this research, the following is recommended:
1- Committees/workshops are needed to review all OTC drugs in the same way as the prescription drugs
2- The regular inspection of pharmacies to ensure compliance with the Ministry Of Health`s regulations governing dispensing of drugs is essential.
3- Health education campaigns stressing the dangers of self-medication and arising from the buildup of "home pharmacies" are also needed.
4- A review of the current physicians` prescribing habits needs to be undertaken with a view to improve drug prescription writing.
5- Curricula of pharmacy programs, schools and faculties should include courses of pharmaceutical care and communication skills.
6- Supervision, audit and feedback.
7- Public education about medicines.
8- Appropriate and enforced regulations.

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To my beloved parents and to my husband Mohammed Isam. There is no doubt that without their continued support and counsel I could not have completed this project. To my brothers and sister who encouraged and supported me throughout my whole life.
REFERENCES
3. OLIVIER BUGNON, DENNIS HELLING, KAISER PERMANENTE. What will be needed to close the gap between efficacy and effectiveness. Pharmacy practice, 2008.
5. The PCNE Classification for drug related problems, 2003; V 4.00.
6. ZUIDLAR, PCNE. Classification for drug related problem, pharmaceutical care network Europe foundation, 2003; 004.