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Retrospective Patient Data Analysis with Respect to Irresponsible Self-Medication in a Community Pharmacy Setting in Taiping (Malaysia)

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Abstract

This study was undertaken to determine the incidences of self-medication by means of patient data analysis in a defined time period, in a community pharmacy in Taiping (Malaysia). This was a data format-based retrospective study. A simple patient data analysis format was used. The details were filled in when the consumers (patients) came to purchase medications. The inclusion criteria were those who purchased medications without a prescription. The subjects intending to self-medicate were included. Age, gender, presenting complaints, medications purchased, social history. A total of 65 cases were obtained. The most common age group that purchased non-prescription drugs from the pharmacy counter falls in the age group 30-39. The number of smokers, non-smokers and alcoholics in the study were (31 cases; 47.69%), (23 cases; 35.38%) and (3 cases; 4.6%) respectively. The most common presenting complaints were headache (10 cases; 14.7%), fever (9 cases; 13.2%) and flu (10 cases; 14.7%). The proportion of self-medication was almost equal in both the genders, with 34 females and 31 males. The ethnicity noted amongst the cases were Malay (20 cases; 30.76%), Chinese (25 cases; 38.46%) and Indian (25 cases; 38.46%). The most frequently purchased medications were antihistamines (15 cases; 23%). All the cases of self-medication were inappropriate or irresponsible, in that the consumers were not at all aware of the risks associated with self-medication. Most of them purchased the drug/s based on advices and suggestions from family members, friends and peers. There was no stringent protocol for intervention regarding dispensing medications to these consumers. The practice of self-medication was common and often irresponsible or inappropriate. Knowledge about the risks of self-medication was poor. Health authorities must develop stringent protocols in regard to self-medication. Pharmacists have a pivotal role in ensuring that each patient who self-medicates is aware of the risks associated. This can only be achieved by appropriate intervention and counseling techniques

Key words: Over-The-Counter medications; Irresponsible self-medication; Polypharmacy, Patient data analysis.

INTRODUCTION

Rational use of drugs is 'the appropriate, timely use of drugs, for an ailment, which is properly diagnosed and prescribed by a physician, in the right dosage of a right regimen and right duration of treatment.' **Paracelsus** (1493 - 1541), the alchemist-physician, observed that 'all drugs are poisons.' The availability of potent and dangerous drugs has increased considerably since the close of the 19th century. At the same time, expanding availability of medical care exposes a large population of people to drugs, leading to a greater number of toxic reactions. Even certain prescription medications are available to the lay person without the physician's authorization. As people vary greatly in their sensitivity to drugs, an appropriate dose for one person can be an overdose for another. Even skilled physicians sometimes

fail to avoid such reactions. Thus, the lay person is ill-advised in subjecting themselves to potentially dangerous self-medication.

Today, over 7000 drugs and drug combinations have been released for general use, and are sold directly to the public as Over-The-Counter (OTC) remedies. A large number of potent drugs are thus available to the individual for self medication. There is an obvious difference between drugs and other commodities of life. The consumer, in most cases, has no way to judge the efficacy of a drug or it's hazards, and therefore these judgments have to be made for him / her by the physicians.[1]

Self-Medication is defined as 'the use of medications, whether modern or traditional, for self treatment.' Studies done on self-medication reveal that it's a fairly common practice, especially in economically-deprived countries. It is a growing trend of self-care, which has

both positive and negative aspects.[2] In several studies, it has been found that inappropriate self-medication results in wastage of resources, increases resistance to pathogens and generally entails serious health hazards such as Adverse Drug Reactions, prolonged sufferings and dependence.[3]

Self-medication usually involves common drugs which are freely available. It is questionable whether the benefits outweigh the potential hazards. They account for poisonings, allergies, habituation, addictions and other adverse reactions. Above all, their use often delays the proper treatment of diseases. People often take medicines on their own, for a small ailment, which can probably be cured by simple measures or even by creating or improving hygienic conditions. Easy access to medicines, advertisements of drugs by pharmaceutical companies, information from peers and friends and a compelling desire to avoid going to the doctor drive people to self-medication. Modern drugs are specific, potent and have side effects which are not fully known to people. Nearly 805 of illness episodes and complications have arisen only out of self-medication by people. All this amounts to misuse and irrational use of drugs.[1]

Non-prescription drugs or OTC drugs are 'completely compounded, packaged drugs and non-bulk chemicals, not requiring a prescription order, which are sold, offered, promoted and advertised by the manufacturer or distributor to the general public.'[4]

Categories of drugs which are misused [self medicated]

- Antibiotics (Penicillins, amoxicillin, tetracyclines, erythromycin, ciprofloxacin, norfloxacin etc.).
- Musculoskeletal drugs (Aspirin, ibuprofen, diclofenac, nimesulide, etc.).
- CNS drugs (Diazepam, lorazepam, fluoxetine, barbiturates, etc.).
- Alimentary system drugs (Laxatives, purgatives, antidiarrhoeals, antiulcer drugs, etc.).
- Respiratory system drugs (Bromhexine, salbutamol, phenylpropanolamine, codeine, dextromethorphan, antiallergenic drugs, etc.).
- Hormones, vitamins, etc.[5]

Reasons why people self medicate

- Easy accessibility to prescription drugs.
- Easy access to OTC drugs.
- Old prescriptions used again and again.
- Overdose for quick relief.
- Easy availability of 'prescription only' drugs without physician's prescriptions due to inefficient control by regulatory authorities.

- Advice by friends, relatives on medicines (often relating their own experiences).
- Patient's social, economic and health factors, which influence his / her decisions.
- Choice by the patient whether or not to buy the medications, even if they have the prescriptions. The patients also decide what items are important and worth buying.
- Patient also decides on the dosage, whether and when to take medicines, and if continuing the medication is necessary, if side effects appear or symptoms disappear.
- Unethical marketing of drugs. Promotional, material advertisements in the newspapers and the media by the pharmaceutical companies. Drugs are distributes, prescribed and used in ways that frequently do not accord with rationality.
- False, misleading claims and commercial promotions, disguised as clinical trials.[5]

Patient data analysis

Patient safety is a new health care discipline that emphasizes the reporting, analysis and prevention of medical errors that often lead to adverse health care events. Patient safety has emerged as a distinct health care discipline supported by an immature yet developing scientific framework. One of the key components of pharmaceutical care is an in-depth understanding of the data obtained from the patient, i.e. Patient data analysis. The resulting patient safety knowledge continually informs improvement efforts such as applying lessons learned from practice, adopting innovative technologies, educating providers and consumers, enhancing error reporting systems and developing new economic incentives.[6]

Recently, the profession of pharmacy has adopted Pharmaceutical Care as it's mission, and thereby, extends the responsibilities of the pharmacist. The goal is to achieve optimal outcomes that improve the patient's quality of life. In order for this to happen, the pharmacists have to collaborate with the patients, patent's care givers, physician, nurses and other health care personnel, to initiate, monitor, modify and discontinue pharmacotherapy (if needed). The aim is to resolve medication-related problems. One of the primary responsibilities of the pharmacists in order to achieve successful outcomes is to collect essential patient data or information.

Patient information is organised into three categories:
Lifestyle: daily activities; tobacco, alcohol & caffeine use; dietary & exercise practice; compliance with current therapy.
Demographic & Medical: age; gender; race; health status; impairments / disabilities; current medical problems.
Therapeutic: past therapies; prescription drugs use; non-prescription drugs use; allergies; ADRs; alternative therapies.[5]

Data to be included in patient information
Core medical information: past medical problems; all current acute & chronic diseases, including assessments of their severity, prognosis and presenting complaints of the patients.
Additional medical information: patient's immune status when the selected drug therapy can cause further immunosuppression.
Therapeutic information: name of prescription and non-prescription drugs used by the patient, frequency of use and therapeutic indications.
Drug allergies, previous ADRs and intolerance are also noted.
Lifestyle information: habits like smoking, alcohol, which have some effects on the drugs administered.
Sexual history (to prevent recurrence of STDs).

Sources of information
Patient.
Patient's caregiver.
Patient profile (from the pharmacy).
Medical records.
Laboratories.
Physicians, nurses, etc.[5]
The purpose of this study is to perform an initial survey of the incidences of self-medication in a specific location in Malaysia, to asses the percentage of this phenomenon, across various parameters and to note the pharmacy's dispensing activities in relation to self medication.

OBJECTIVES
•Retrospective analysis of patient self medication and pharmacy dispensing activities.
•Identification and review of patient profiles.
•To identify the trends of self medication practices and occurrence rates in Malaysia, and to compare it with the existing data available.
•Research studies into drug-related trends to aid in improving pharmaceutical care.
•To improve the researchers' competency levels with respect to data collection and analyses.

MATERIALS AND METHOD
The sequential plan of work which was carried out:-
Stage-1: Collecting literature-based evidences from books, journals and the internet.

Stage-2: Fixing or setting or preparation of a standardized team for collecting patient data, with priority assigned to age, gender, social status, presenting complaints, past and current medication.
Stage-3: Obtaining permission from the community pharmacists to perform the field study.
Stage-4: Collection of patient data from all the patients who purchased drugs without prescription (self-medication). This was done for a period of 8 weeks
Stage-5: Analysis of all the data obtained, comparison with, and observing the trends with existing literature.
Subjects: Any customer / patient purchasing medications without a prescription, with the sole intention of self-medicating.
Setting: Retail pharmacy in Taiping (Malaysia).

RESULTS & DISCUSSION
Age:
We found that the highest incidences of self-medication was in the age group 30-39
(20 cases, 30.8%). This was consistent with the study conducted by Dr. P.R. Shankar et al (2002) on self-medication practices amongst the population in Pokhara valley (Nepal). They reported that 76 respondents (54%) were aged between 20 – 39 years. Majority of the respondents stayed within 30 minutes of a pharmacy store. The most common reasons given for self-medication were mild illness, previous experience of treating a similar illness and non-availability of health care personnel.[6] Older people are more prone to fall ill than younger persons, due to weaker body resistance. They will also usually require more time to recover from the illness. Dr. Pascal Goldschmidt (Duke University Medical Center) and Duke researchers discovered that a major outcome of aging is an unexpected failure of the bone marrow to produce progenitor cells needed to repair and rejuvenate arteries exposed to a genetically induced risk of high blood pressure in the mouse. Stem cells are immature cells produced in the bone marrow that have the potential to mature into a variety of different cells. The researchers demonstrated that an age-related loss of these particular stem cells which reside in the marrow but are also designed to repair arteries is critical to determining the onset and progression of atherosclerosis, which causes arteries to clog and become less elastic.[7]
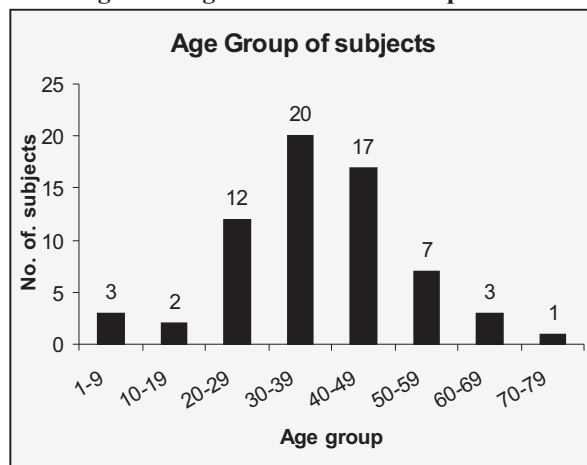Thomson W.M. et al (2006) surveyed the change in medication use from ages 26 to 32. Nearly two-thirds took at least one medication at each age, with medication prevalence higher among women than among men. Three-quarters of those taking at least one at age 26 were doing so at 32. Over-the-counter medication prevalence

Figure.1: Age distribution of the patients

increased from 35 to 43% between 26 and 32 years of age. The prevalence of prescribed medications decreased. Other categories showing major changes were analgesics (increased), anti-asthma drugs (decreased), antidepressants (increased) and antiulcer drugs (increased). At 32, 82% of those taking analgesics, 85% of those taking nutrient supplements, 71% of those taking antihistamines and 33% of those taking antiulcer drugs had self-prescribed them.[8]

Gender:

From the data's obtained, we found that more females (34) purchased non prescription drugs from the pharmacy than males (31) although there is just a small gap difference.

Sex hormones like estrogen, and genes appear to play a big part in how individuals' bodies, and emotions, react to pain where higher estrogen levels made a difference in the activation of the brain's natural painkiller system. Researchers at the University of Michigan found that variations in women's estrogen levels like those that occur throughout the monthly menstrual cycle, or during pregnancy regulate the brain's natural ability to suppress pain. When estrogen levels are high, the brain's natural painkiller system responds more potently when a painful experience occurs, releasing chemicals called endorphins or enkephalins that dampen the pain signals

received by the brain. But when estrogen is low, the same system doesn't typically control pain nearly as effectively.

In all 28 countries included in the database, analgesic use was higher in girls than boys. Use of analgesics for headaches increased by age, but medications for inability to sleep or nervousness declined. Use of medications for stomachache increased by age in girls, but decreased in boys. The data revealed analgesic use for headache in 48.9% of boys and 65.9% of girls, with medication for stomachache used in 20.5% of boys and 34.6% of girls, while medications for sleeplessness or nervousness were used in 10% or less.[9]

This finding was consistent with the result of an earlier study done by Thomas et al, in which self medication prevalence was higher among women.[8]

Figure.1: Gender distribution of the patients
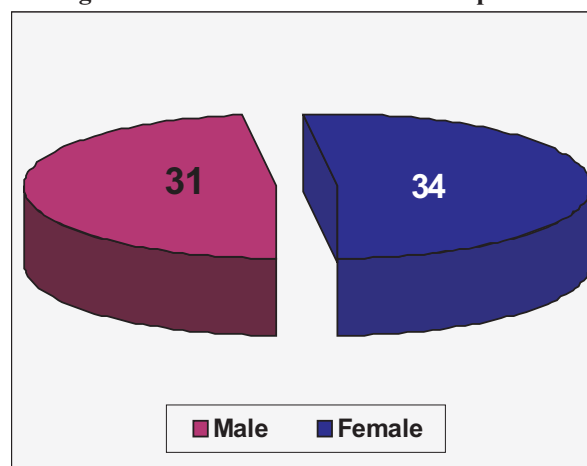
Complaints:

From the datas collected, the most frequent complaints from patients were headache (10 cases, 14.7%), fever (9 cases, 13.2%) and flu (10 cases, 14.7%).

This was found to be consistent with the findings in the self-medication epidemiology studies conducted in Ethiopia (2003), where headache, fever, cough and diarrhea were the common illnesses that led to an increased incidence of self-medication. [10]

Dr. Shankar et al (2002) conducted a study assessing the self-medication patterns in Nepal. Their findings too indicated that the commonest illnesses that led to self-medication were usually self-limiting 'minor illnesses' like headache, fever, cough, diarrhea and flu. Analgesics and antipyretics were the medications most commonly self-medicated. This corresponds well with headache, fever and flu being the common indications. Analgesics and antipyretics are used for headache, fever, body aches and pains respectively. [11]

In the study by Henry James et al (2005) pertaining to self-medication, the most common indications for self-medication were to relieve the symptoms of headache (70.9%), cough, cold and sore throat (53.7%), stomachache (32.8%) and fever (29.9%). Analgesics (81.3%) were the most common drugs used for self-medication. The practice of self-medication was appropriate in only 14.2% of cases. They concluded that the knowledge about appropriate self-medication was poor, attitude towards self-medication was positive, and the practice of self-medication was common and often inappropriate [12]

Social history:

Based on the data collected from the research project, it was found that most of the patients are smokers (31 people, 54%) and a few are alcoholics (3 people, 5.2%).

ALCOHOLICS

Many medications can interact with alcohol, leading to increased risk of illness, injury, or death. For example, it is estimated that alcohol-medication interactions may be a factor in at least 25 % of all emergency room admissions. [13]

Approximately 70% of the adult population consumes alcohol at least occasionally, and 10% drink daily [14]. About 60% of men and 30% of women have had one or more adverse alcohol-related life events. [15] Alcohol can influence the effectiveness of a drug by altering its availability. Typical alcohol-drug interactions include the following:

1) Inhibits a drug's metabolism by competing with the drug for the same set of metabolizing enzymes and enhances the drug's availability,
2) Activate drug-metabolizing enzymes, thus decreases the drug's availability and diminishing its effects.
3) Enzymes activated by chronic alcohol consumption transform some drugs into toxic chemicals that can damage the liver or other organs.
4) Magnifies the inhibitory effects of sedative and narcotic drugs at their sites of action in the brain. [16]

Figure.1: Graph showing the common presenting complaints by the patients
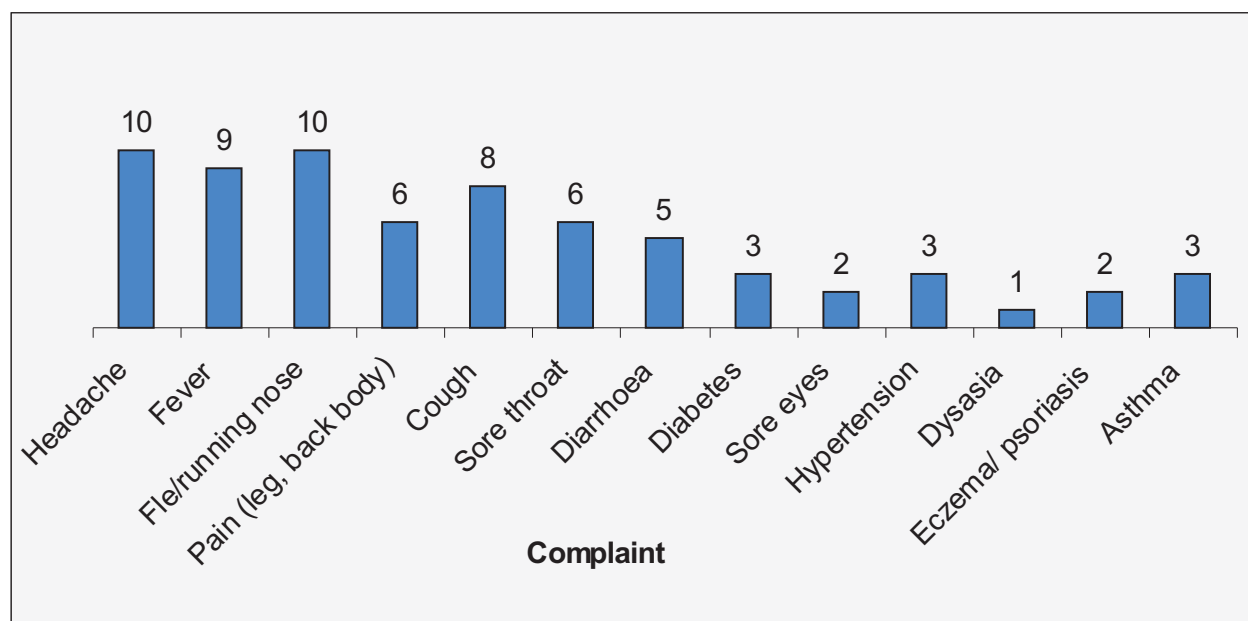
Some specific interactions

Narcotic pain reliever (codeine): These drugs are prescribed for moderate to severe pain. The combination of opiates and alcohol enhances the sedative effect of both substances, increasing the risk of death from overdose. [17]

Non-narcotic pain relievers: Aspirin and similar nonprescription pain relievers are most commonly used by the elderly. Some of these drugs cause stomach bleeding and inhibit blood from clotting; alcohol can exacerbate these effects. [18] Older persons who mix alcoholic beverages with large doses of aspirin to self-medicate for pain are therefore at particularly high risk for episodes of gastric bleeding. In addition, aspirin may increase the availability of alcohol, heightening the effects of a given dose of alcohol. [19]

Antihistamines: Drugs such as diphenhydramine (Benadryl and others) are available without prescription to treat allergic symptoms and insomnia. Alcohol may intensify the sedation caused by some antihistamines. [20] These drugs may cause excessive dizziness and sedation in older persons; the effects of combining alcohol and antihistamines may therefore be especially significant in this population.

Smoking

Tobacco smoking is associated with many drug interactions. Drug interactions can occur via pharmacokinetic and pharmacodynamic mechanisms.

Pharmacokinetic interactions may cause smokers to require larger doses of certain drugs through an increase in plasma clearance, a decrease in absorption, enzyme induction or a combination of these factors. Pharmacodynamic interactions may increase the risk of adverse events (for example, in smokers with cardiovascular disease, and in women who smoke and use oral contraceptives).

Below are the possible interactions of analgesics, antihistamines and NSAIDs due to smoking

Analgesics – less effective as analgesics in smokers than in nonsmokers

Anti-inflammatory drugs – greater clearance in smokers than in non-smokers.

H2 Blockers – reduced plasma levels and reduced nicotine clearance in non-smokers.

Drugs purchased:

Based on the datas collected from the research project, we found that the most frequently purchased drugs are the Antihistamines (15 cases, 23%) and NSAIDs (13 cases, 20%)

A histamine antagonist is an agent that serves to inhibit the release or action of histamine. Antihistamine can be used to describe any histamine antagonist, but it is usually reserved for the classical antihistamines that act upon the H1 histamine receptor. Antihistamines are used as treatment for allergies. There are 2 types of antihistamine, one acting on the H1 receptors and the other on H2 receptors. [21]

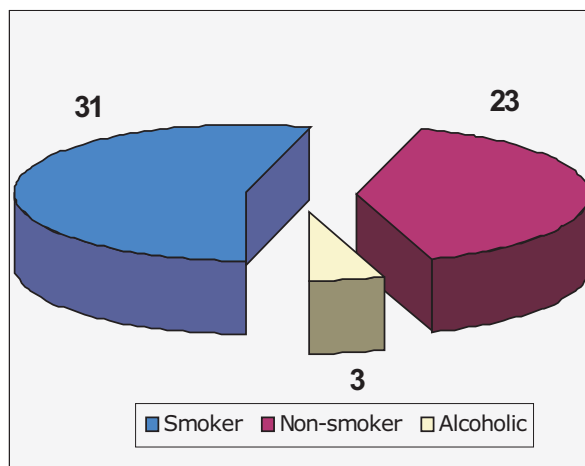**Figure.1: Graph showing the social history of the patients**

Table. 1: Drugs purchased by the patients

Drugs	Classification of drugs	No. of Patients
Famotidine 20 mg, Cimetidine	H2 receptor antagonist	2
Cetrizine 10mg, Orphenadrine citrate, Benatussil expectorant, Loratadine, Dimenhydrinate, Triprolidine HCL 2.5mg, Cetrizine, Betahistine HCL	Antihistamine	15
Norethisterone 10mg, Evening Primrose oil capsules	Hormonal contraceptives	2
Ambroxol HCL 30 mg, Cylindrol-mucoflux syrup 5ml, Bromhexine HCL 8mg	Mucolytics	4
Lyzozyme HCL 200mg, Serratiopeptidase	Anti inflammatory	4
Metformin 850mg, Metformin HCL, Glibenclamide 5mg, Gliclazide	Antidiabetics	3
Calcium dodesilate monohydrate 500mg	Anti haemorrhagic	2
Naproxen sodium 275mg, Diclofenac sodium, PCM, Etoricoxib, Naproxen Serratiopeptidase, Rofecoxib	NSAIDs	13
Prime edema, Macrogol 400	Laxatives	3
Fungazol 10's, Clotrimazole lotion	Broad spectrum antifungal	1
Loperamide	Opioid receptor antagonist	2
Clobetasol propionate ointment, Prednisolone	Corticosteroids	2
Charcoal	Antidiarrheals	2
Fusic acid, Na fusidate, Ceturoxime axetil	Antibiotics	1
Losartan potassium	Antihypertensives	2
Dextromethorphan	Antitussives	2

NSAIDs are usually indicated for the treatment of acute or chronic conditions where pain and inflammation are present. For example, NSAID can be used for treatment of the following:
· Rheumatoid arthritis, Osteoarthritis, Acute gout
· Inflammatory arthropathies (e.g. ankylosing spondylitis, psoriatic arthritis, Reiter's syndrome)
· Dysmenorrhoea, Metastatic bone pain, Headache and migraine, Postoperative pain, Mild-to-moderate pain, Pyrexia, Ileus and Renal colic[22]

Aspirin, the only NSAID able to irreversibly inhibit COX-1, is also indicated for inhibition of platelet aggregation. This is useful in the management of arterial thrombosis and prevention of adverse cardiovascular events. Aspirin inhibits platelet aggregation by inhibiting the action of thromboxane -A. Aspirin does have certain drawbacks. It can irritate the stomach lining, causing heartburn, pain, or nausea. Coating aspirin capsules helps reduce this irritation by preventing the release of the aspirin until it has passed through the stomach and into

the small intestine; however, coating also slows the absorption of aspirin and increases the amount of time before it starts to work. Other side effects include the fact that high doses of aspirin may cause ringing in the ears. Aspirin shouldn't be given to children under the age of twelve or to pregnant women, especially during the last three months of pregnancy since it could cause complications during delivery. [23]

Taking more than the prescribed dose of NSAIDs can increase the risk of gastrointestinal upset and ulcers. A study (2002) involving 138 patients showed that taking multiple NSAIDs – either intentionally or inadvertently – can adversely affect a person's overall health. The results showed that 26 percent of participants were dual users, meaning that they reported taking at least two NSAIDs (multiple prescriptions, OTC, or both) during the previous month. Using multiple NSAIDs was found to be associated with worse scores on the physical health component of the survey. Little is known about patients who take multiple NSAIDs, whether multiple prescriptions or OTC NSAIDs. As OTC use is difficult to track, few studies have evaluated it. In addition, OTC medication is often not discussed during doctor visits, even though taking high doses of NSAIDs raises safety concerns. [24]
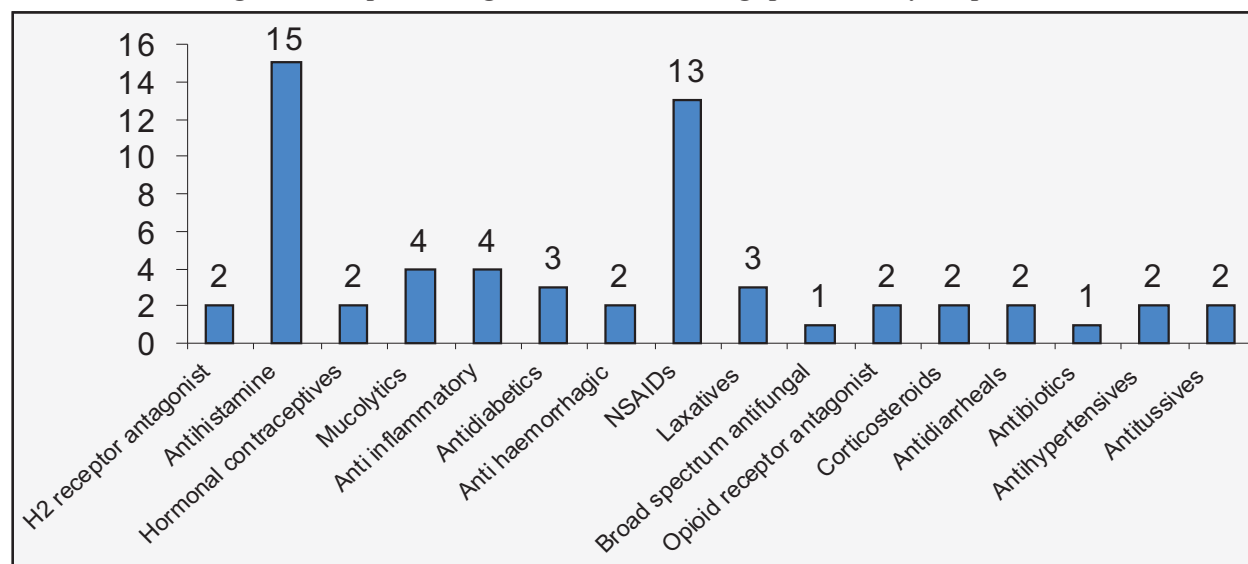
Polypharmacy

From our findings, we discovered that polypharmacy is quite common among Malaysian patients accounting for about 29 cases (44.6%).

The term 'Polypharmacy' is derived from the Greek words *polus* (many) and *pharmakon* (drugs / poisons), and literally means 'many drugs' [25].The intent of co-pharmacy is to produce a drug-drug interaction that will have beneficial consequences for the patient. Generally, the goal is to produce a pharmacodynamic interaction in which the effect of one drug accentuates or diminishes the effect of another. Alternatively, the goal could also be to produce a pharmacokinetic interaction in which one drug alters the absorption, distribution, metabolism, or elimination of another. Polypharmacy occasions greater concern because each drug that is added to the patient's regimen increases the likelihood of an adverse outcome and the expense of the treatment.

A study by Dr. Barkley et al (2006) revealed that one of the major contributing factors to polypharmacy is self-medication by the patient. Surveys show that 73% of Americans would rather treat themselves at home than see a doctor and 96% are confident about their ability to make their own healthcare decisions. This decreases the ability of healthcare providers to properly monitor potentially dangerous interactions. Patients' ability to start their own regimens without input from a healthcare provider is increasing as more medications make the switch to over-the-counter (OTC) status. According to Dr. Barkley, there are more than 700 products available OTC today that were prescription-only less than 30 years ago. Elderly patients are certainly at high risk for polypharmacy -- seniors consume 34% of all prescription drugs, 33% of all over the counter drugs and 6.5 million use 1 of 33 inappropriate prescription drugs. But, the possibility should not be discounted in other patients. Patients with co-morbidities, with multiple healthcare providers, and those who fill prescriptions at more than one pharmacy are at increased risk. [26]

Figure.1: Graph showing different class of drugs purchased by the patients

According to the WHO – among the populations most impacted by the challenges of polypharmacy are the elderly. In the U.S., the elderly consume more than 1/3rd of all pharmaceutical drugs. Polypharmacy is problematic for elderly because it is the greatest risk for adverse drug reactions, drug interactions, etc. The same report also reveals increasingly high levels of medication use among the elderly. 66% of men and 88% of women consume atleast one medication per week. When OTC drugs are included, the percentage rises significantly to 89 % men and 94% women. [27]

The criteria for rational co-pharmacy are:

1. Knowledge that the combination has a positive effect on the pathophysiology or pathoetiology of the disorder.
2. Convincing evidence that the combination is more effective, including more cost-effective, than monodrug therapy
3. The combination should not pose significantly greater safety or tolerability risks than monotherapy
   -Drugs should not have narrow therapeutic indices.
   -Drugs should not have poor tolerability profiles.
4. Drugs should not interact both pharmacokinetically and pharmacodynamically.
5. Drugs should have mechanisms of action that are likely to interact in a way that augments response.
6. Drugs should have only one mechanism of action.
7. Drugs should not have a broad-acting mechanism of action.
8. Drugs should not have the same mechanism of action.
9. Drugs should not have opposing mechanisms of action.
10. Each drug should have simple metabolism.
11. Each drug should have an intermediate half-life.
12. Each drug should have linear pharmacokinetics. [28]

Distribution of patients according to the race
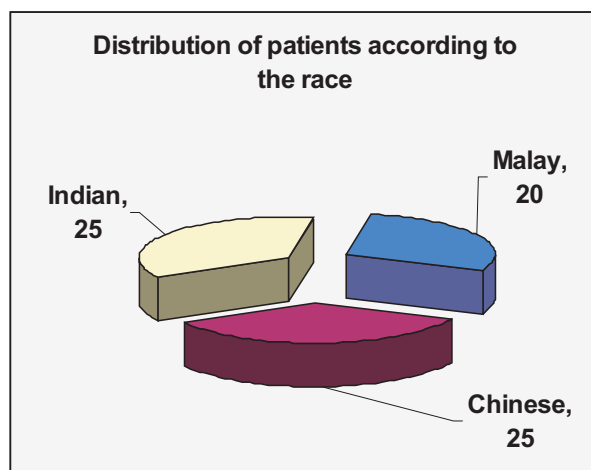
CONCLUSION

This retrospective survey shows that a significant proportion of the general population (65 cases) in the span of 14 weeks opted for self medication. Most of the consumers had a foreknowledge of the medications they had to purchase based on previous prescribed medication regimen, old prescriptions, and suggestions from friends, family and peers. All of them were not aware of the side effects and the risks posed by the medications that they purchased without prescription. The practice of self-medication in this survey period was common and inappropriate or irresponsible. As no clear-cut protocols exist regarding self medication and dispensing to such patients, the pharmacists had no other alternative, but to dispense the medication. It would have been beneficial to these consumers if counselling was provided on a regular basis.

Self-medication must be accompanied by appropriate health information. Responsible self-medication can help prevent and treat ailments that do not require medical consultation and provides a cheaper alternative for treating common ailments. Self-medication is an area where governments and health authorities need to ensure that it is done in a responsible manner, ensuring that safe drugs are available over-the-counter and the consumer is given adequate information about the use of drugs and when to consult a doctor. Unlike other aspects of self-care, self-medication involves the use of drugs, and drugs have the potential to do good as well as cause harm. In this context, the pharmacists have a pivotal role in ensuring responsible self-medication.

Retrospective patient data analysis with respect to irresponsible self medication in community pharmacy setting

PATIENT CHARACTERICTICS					
Name :	Age :	Sex :	File No. :		Date :

Education	Social History
Primary (<6) ☐ Secondary (6-12) ☐ Graduates and above (>12) ☐	Smoker ☐ Alcoholic ☐ Tobacco ☐ Betel Nut ☐ Snuff ☐
Marital Status : M ☐ UM ☐	**Know Allergies :** **House hold Income :**
C/O :	**Past Medical History :**
Past Medication History :	**No of drugs prescribed :** 0-1 ☐ 2-4 ☐ >5 ☐
For Treatment Of :	

DRUGS PROCURED					
No	**Drugs**		**Route of Administration**	**Dose**	**No of days**
	Tr. Name	**Gen. Name**			
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Recommendations for future research

Self medication is defined as 'the use of medication, whether modern or traditional, intended for the sole purpose of self treatment. Studies assessing self medication reveal that it is a fairly common practice, especially in economically deprived countries. Self medication moves patients towards greater independence in making decisions about management of minor illnesses, thereby promoting empowerment. Self medication also has advantages for healthcare systems, as it facilitates better use of clinical skills; increases access to medication and may contribute to reducing prescribed drug costs. However, irresponsible self medication is associated with risks such as misdiagnosis, use of excessive drugs, and prolonged duration of action, drug interactions and polypharmacy. The latter may be particularly problematic in the elderly. Monitoring systems, a partnership between patients, physicians and pharmacists, and the provision of education and information to all concerned on safe self medication, are proposed strategies for maximizing benefit and minimizing risks.[2]

This research work can, provided the time frame is increased, delve deeper into this aspect, by assessing many more patients, include successive stages (namely pharmacists' intervention, counselling and evaluation of the efficacy process and patient compliance). Close coordination with the pharmacists can ensure, over a period of time, improved counselling sessions with the patients. Furthermore, evaluation of the counselling process as well as compliance can be done through regular follow customers. The pharmacist's attitude towards self medication with respect to dispensing and counselling can also be evaluated.

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