PharmacologyOnLine August 30, 2016

Newsletter • 2016 • vol.2 • 11-17

A PRESCRIPTION SURVEY ON DRUGS USED IN PREGNANCY

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Abstract

Pregnancy period is so much important not only for pregnant women but also for the baby who is gradually developing inside her body. During this period pregnant women should have under extreme care because a physically and mentally well health mother ensures a healthy, beautiful baby. Diseases can be devastating for anyone, but it seems particularly serious when they attack a pregnant woman. Unfortunately, many simple diseases seem to be critical in the pregnancy period. The purpose of the study is to investigate the disease condition, treatment practices and proper guidelines of the pregnancy period in Bangladesh. Lots of pregnant women also face the iron deficiency, bacterial infection, nausea, vomiting, vertigo, mixed vaginal infection, threatened abortion, threatened premature delivery, nutrients etc problems. To overcome and proper management of the complications different medications may need to be used. This study was done based on the survey of prescribed medication to find out the pattern and use of medication during pregnancy. Prescriptions were collected from Mymensingh Medical College Hospital, Mymensingh , Bangladesh. Statistical analysis was done using Microsoft Excel. After evaluation of the prescription it was seen that mineral preparations were the most commonly prescribed drug (36%). Anticholinergic (24%),PPIs (19%), antibiotics (9%) were also abundant among other classes. Medications to prevent and control nausea , vomiting were also seen. When further categorized, calcium carbonate among mineral preparation , esomeprazole among PPIs are seen to use mostly. No drug of fetal risk were seen to prescribed. Health practitioners as well as pregnant women need to follow standard guideline for medication to minimize further complication and to ensure a healthy nation.

Key words: Pregnant, prescription, antibiotic, iron deficiency, mineral.

Introduction

Pregnancy, also known as gestation, is a natural phenomenon. A girl's most precious blessing is the ability to be a mother. Pregnancy period is very important for the pregnant women and for the baby as well. During this period, pregnant women need extreme care. A multiple pregnancy involves more than one offspring, such as with twins. Pregnancy can occur by sexual intercourse or assisted reproductive technology. It usually lasts around 40 weeks from the last menstrual period (LMP) and ends in childbirth. When measured from conception it is about 38 weeks. An embryo is the developing offspring during the first eight weeks following conception, after which, the term fetus is used until birth. Symptoms of early pregnancy may include a missed periods, tender breasts, nausea and vomiting, hunger, and frequent urination. [1] Pregnancy may be confirmed with a pregnancy test.

Prenatal care improves pregnancy outcomes [2]. Prenatal care includes many tasks such as taking extra folic acid [3], regular exercise, blood tests, avoiding drugs and alcohol, and regular physical examinations.

Pregnancy period can get grievious as different typres of coplications such as pregnancy induced hypertension, Anemia, Postpartum depression, Postpartum psychosis, Thromboembolic disorders, Pruritic Urticarial Papules and Plaques of Pregnancy, Ectopic pregnancy, implantation of the embryo outside the uterus can be seen during pregnancy. Excessive nausea is more severe than morning sickness. Susceptibility and severity of many infections also increases in pregnancy. These complications may be life threatening and if not then they may result in the ill health of both mother and baby later. Up to 20 million girls and women a year suffer from maternal complications globally [4]. In 2013, complications of pregnancy resulted in 293,000 deaths down from 377,000 deaths in 1990 [5]. Common causes include complications of abortion (44,000), maternal bleeding (44,000), high blood pressure of pregnancy (29,000), maternal sepsis (24,000), and obstructed labor (19,000) [6].

To minimize the effects of these complications, it might be necessary for pregnant mothers to take medications. Though without talking to doctors, pregnant women should not start or stop any medication but in some cases, the use of drugs in pregnancy may carry benefits over the risks. For example, in the early months high fever is harmful for the fetus. So, it might be necessary to use paracetamol which is generally associated with lower risk than the fever itself.

Pregnant women suffering from health conditions like asthma, epilepsy (seizures), high blood pressure, and depression must take medication otherwise a pregnant woman or her unborn baby could be harmed. To prevent complications to mother and baby associated with diabetes mellitus during pregnancy, intensive therapy with insulin may be needed. Medication for pain management for the mother is may be needed after evaluation of the benefits and risks [7]. To remain healthy and to ensure safety and proper heath of the fetus, pregnant women need to maintain proper guideline of pregnancy. They need to adjust with and may need to improve various lifestyles. For proper prenatal care, appropriate intake of nutrients that includes vitamins, minerals is necessary. Iron supplementation, calcium and Vitamin D may be needed for women with specific need. The purpose of this study is to know about the disease condition, treatment practices and proper guidelines followed during the pregnancy period in our country. It also aims to find out the drugs which are more frequently used in pregnancy period and to get idea about the complication of pregnancy. Drug use studies help to identify the adherence to standard treatment guidelines and evaluate the rational drug usage.

Methods

This report was based on evaluation of the prescription. A prospective observation study was carried out for a period of 4 weeks in the month during December 2015 to January 2016. During this period 150 prescriptions were collected. Prescriptions were collected from the pregnant women attending the outpatient department in Mymensingh Medical College Hospital. All women were well informed about the objective of collecting prescription from them and verbal informed consent was taken from them. At first, patients were categorized according to the generic they were prescribed to find out the overall picture of drug use among the pregnant women of that hospital. Then the generics were categorized according to the drug class they belong to. Drug classes were at last sub-categorized to find out what generics are profuse in use. Statistical analysis was performed using the Microsoft Excel. Various secondary sources like books, journals, project reports, project documents, unpublished reports, news reports , internet are also used for this study.

Results and Discussion

The patients were categorized into several groups according to the generic of the drug prescribed (Fig-

1). A number of drugs have been found to treat various complications associated with pregnancy. The study revealed that most of the prescribed drugs were of some specific classes (Fig-2). Among several classes, mineral preparations were the most commonly prescribed drugs [36%]. Anticholinergic drugs & proton pump inhibitors (PPI) were prescribed to 24% & 19% pregnant women respectively to treat their gastrointestinal diseases. Antibacterial agents were prescribed to 9% pregnant women observed in the study. 4% of them were given specific vitamin preparation. 1% of the total sample population was given drugs for allergic disorder. Among others, drugs for nausea, vomiting, vertigo, protozoal infection & muscle relaxants were remarkable. The study demonstrated that the patients prescribed with mineral & vitamin preparations were given calcium carbonate [27%]; calcium carbonate & vitamin D_3 combination [36%]; carbonyl iron, folic acid & zinc sulphate combination [28%] & only vitamin preparation [9%] (Fig-3). Proton pump inhibitors (PPIs), namely esomeprazole (60%), omeprazole (38%) & pantoprazole (2%) were the commonly prescribed antiulcerants in pregnancy (Fig-4). Pregnant women affected with bacterial infections (vaginal, skin, throat or respiratory infection) received cephalosporins [13%] & macrolides [87%] (Fig-5). Nausea, vomiting & vertigo, which are very common in pregnancy, were treated with palonosetron [44%]; ondansetron hydrochloride [44%]; combination of meclizine hydrochloride & pyridoxine hydrochloride [12%] (Fig-6).

Montelukast sodium [29%], fexofenadine hydrochloride [28%] & levocetirizine dihydrochloride [43%] were prescribed for the patients with asthma & other allergic complications, the most serious illnesses during pregnancy (Fig-7). To alleviate symptoms such as muscle spasms, pain and hyperreflexia, tolperisone hydrochloride [14%] & baclofen [86%] were prescribed (Fig-8).

Conclusion

Complications of pregnancy can involve the mother's health, the baby's health or both. These complications may range from discomforts to severe, sometimes life-threatening illnesses, including anemia, urinary tract infection (UTI), hypertension, gestational diabetes mellitus & infections (bacterial, viral or fungal). About 830 women die from pregnancy or childbirth related complications around the world every day. Prescribers should follow a set of guidelines to select the least harmful drugs on drug therapy. According to the study, mineral supplements, gastrointestinal drugs & antibiotics are the most common medications prescribed for pregnant women. None of the prescribed drug was found to have proven fetal risk (Category X). This study does not provide any information on over-the-counter medications, so generalization of the result is not possible. In addition, it does not focus on possible teratogenic risks of drugs taken during pregnancy. Hence, a prospective study is needed to assess the potential fetal harm among pregnant women.

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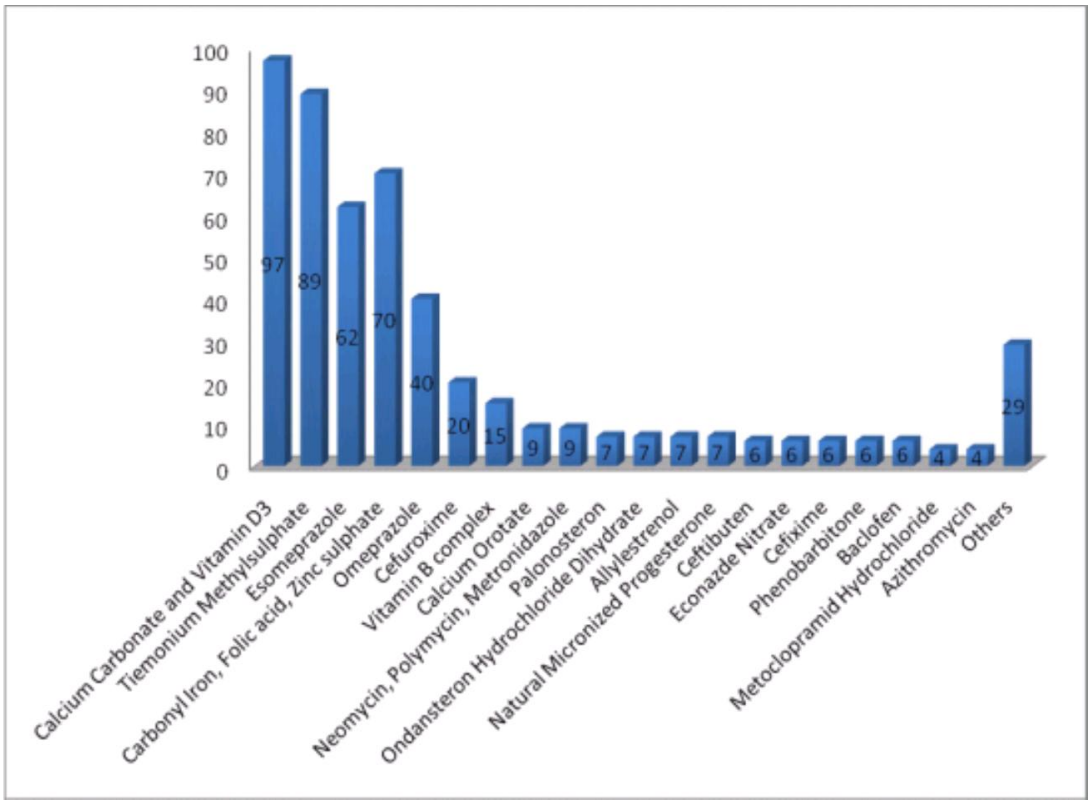

Figure 1. Number of people of different generic group

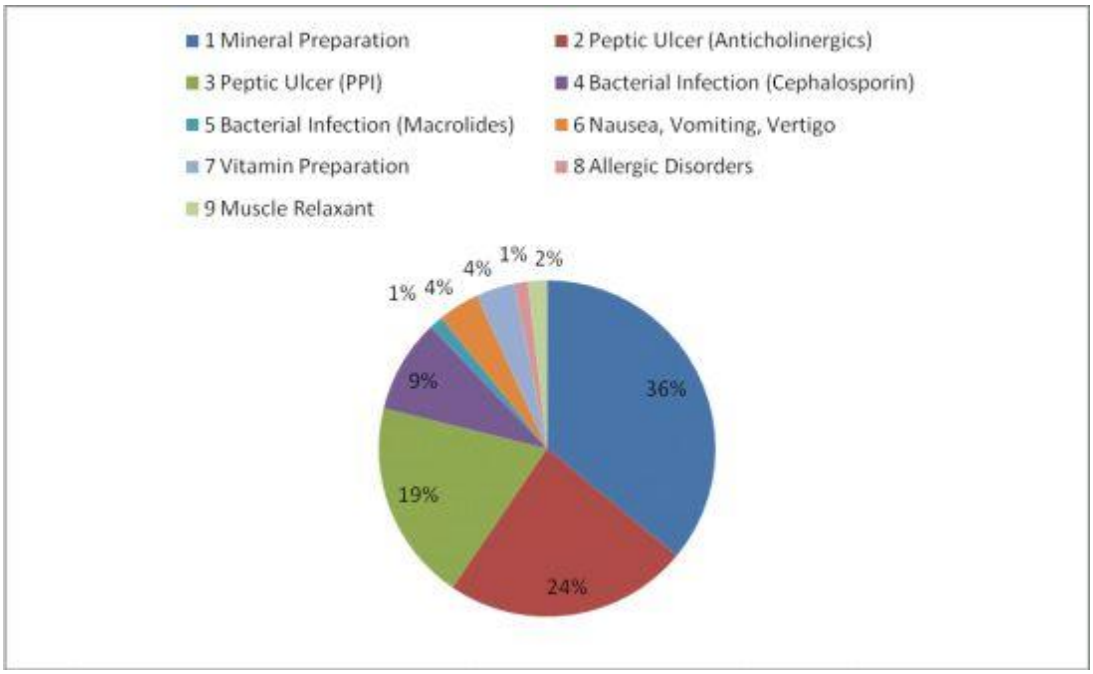

Figure 2. Percentage of people belonging to different classes of prescribed drugs

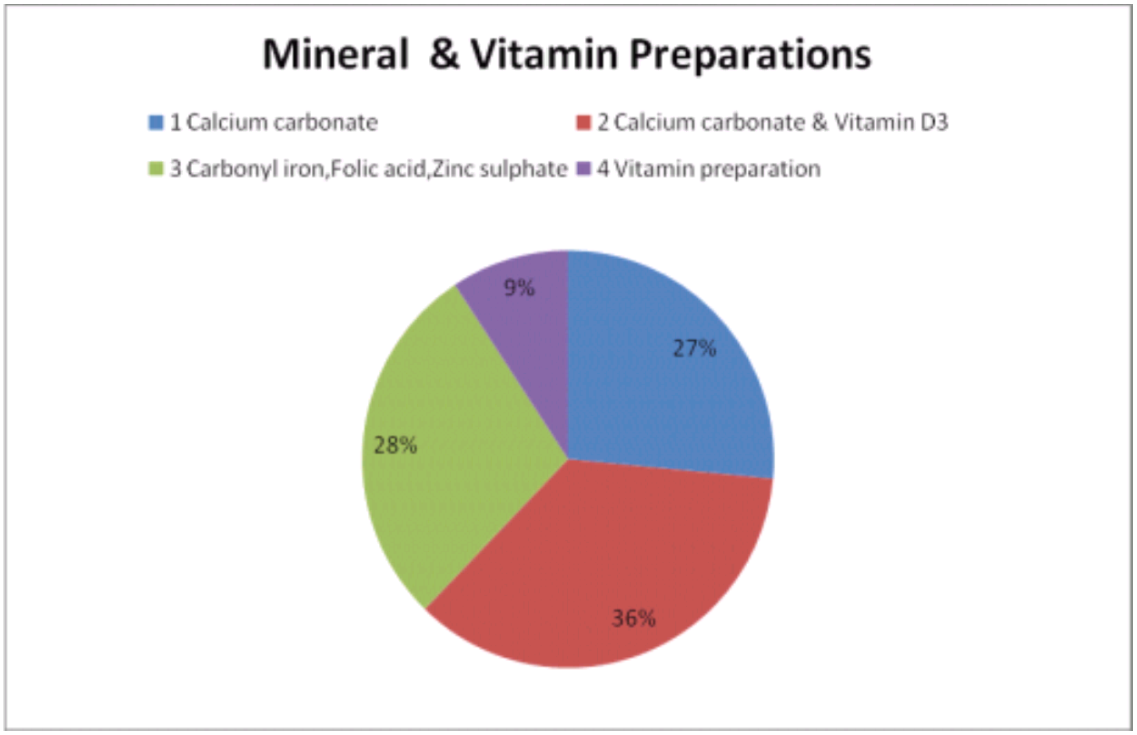

Figure 3. **Percentage of different generics of mineral & vitamin preparations**

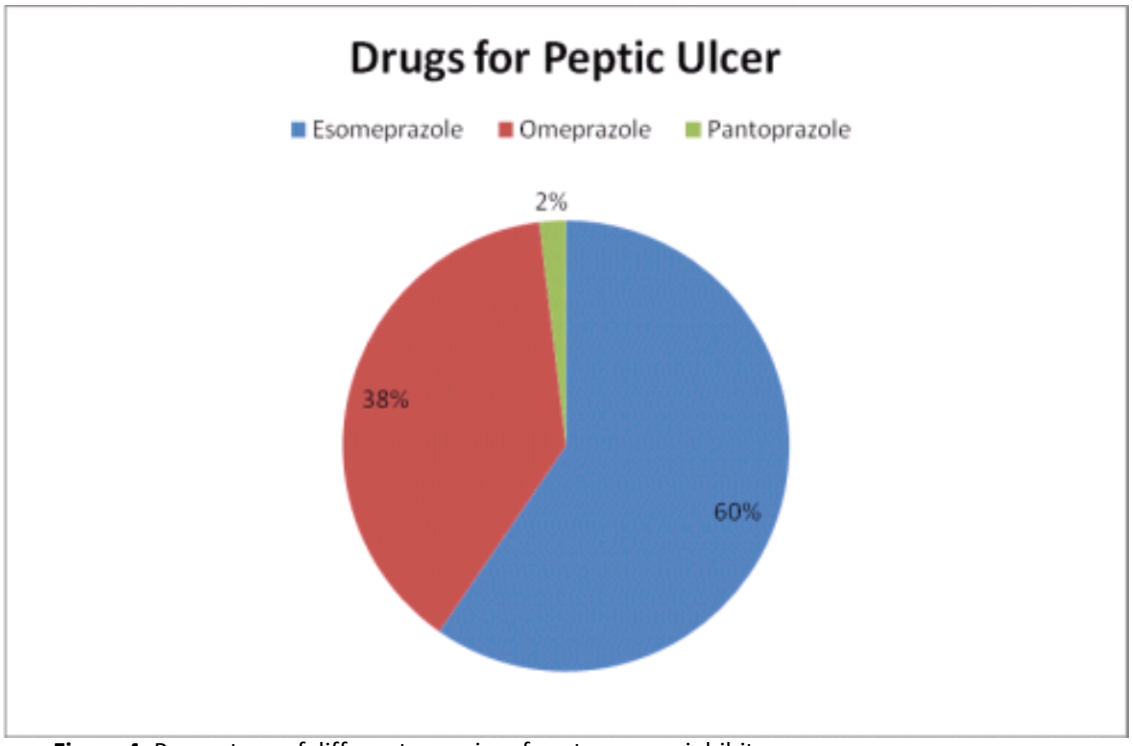

Figure 4. Percentage of different generics of proton pump inhibitors

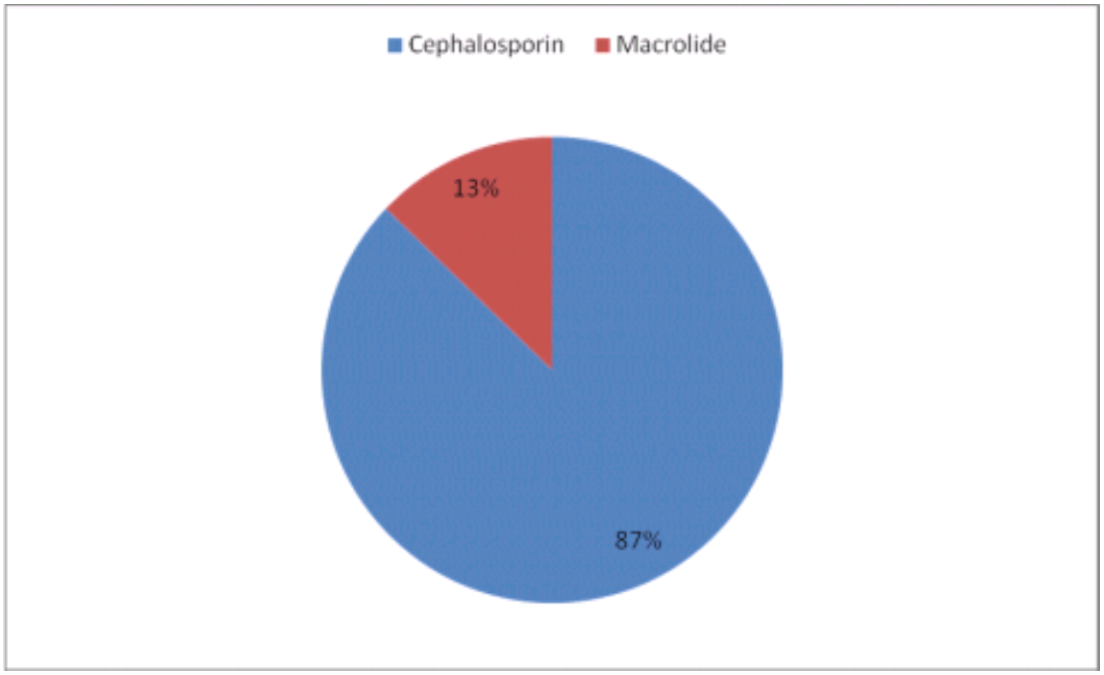

Figure 5. Percentage of different antibiotics

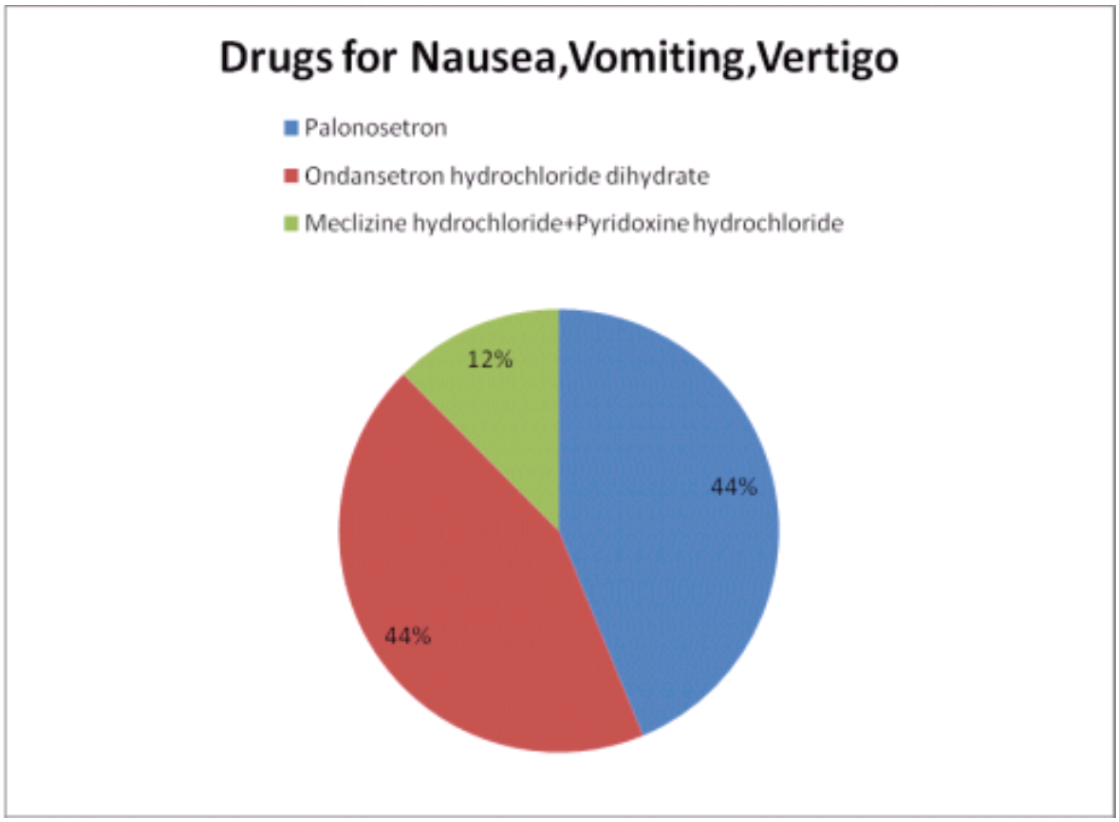

Figure 6. Percentage of different generics of antiemetics

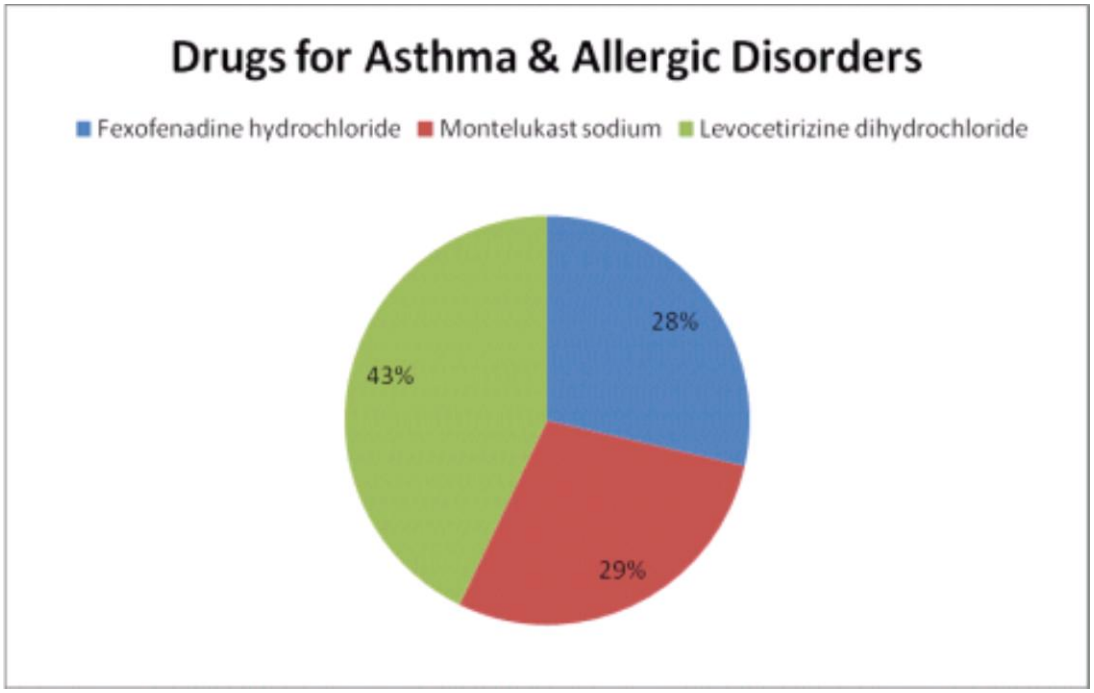

Figure 7. Percentage of different generics used to treat allergic complications

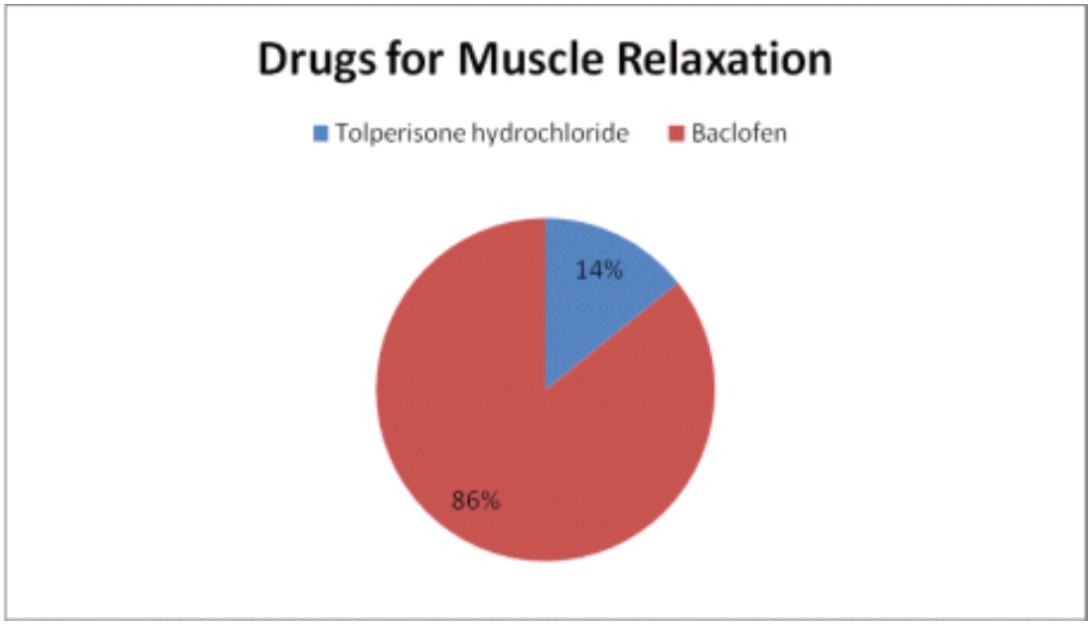

Figure 8. Percentage of different generics of muscle relaxant