

Prevalence and Nature of Self-Medication of Drugs Among Pregnant Women in Rajshahi City, Bangladesh

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Abstract: The phenomenon of self-medication is a significant problem in a developing country due to easy availability of drugs. It is important in pregnancy as these agents may be teratogenic; pregnant women may be exposed to drugs that have serious harmful effects on their fetus. The present study was conducted to determine the prevalence and nature of self-medication in pregnant women in Rajshahi city, Bangladesh. The study was carried out using a self-designed standard structured questionnaire following WHO guidelines from January 2015 to April 2015. In this study, 650 pregnant women were considered as randomly selected sample from women attending for maternity care from one public hospital and five private clinics in Rajshahi City. 79 (12.2%) women use self-medication. The conditions which prompted women to obtain self-medication of drugs were gastric acidity (32.9%), infection (24.1%), cold & fever (21.5%), pain (12.7%), vomiting (8.9%) and disorders related to pregnancy (7.6%). The drugs most commonly used were antacids (27.8%) followed by non-steroidal anti-inflammatory drugs (26.6%), iron (15.2%), vitamins and minerals (12.7%), ayurvedic preparations (5.1%), antiemetic (5.1%) and antibiotics (3.8%) respectively. Most common reasons of self-medication were availability of drugs (42%), prior experience (20.8%), emergency usage (11.2%), knowledge about drugs (10.0%) and advice from traditional healers (8.0%). Moreover, 44.3% of women did not complete the course of antibiotics. Due to the adverse effects of self-medication, particularly during pregnancy, which can lead to teratogenicity or fetotoxicity, it is necessary to take some measures to preventing self-medication in pregnant women.

Keywords: Self-Medication, Pregnant Women, Prevalence, Reasons, Abnormal Birth, Rajshahi City, Bangladesh

1. Introduction

Medications are a strategic, important commodity with a direct relation to community's health and sustainable development. Disease and health are the two words which back to the history of human creation. From the ancient time,

human being has been dealing with this concept and its associated factors. However, this concept, content, and the way to deal with it have been various at different times [1]. Today, progress and awareness have provided an impetus for people to play a greater role in their own health scope. In other words, people are eager to have more responsibility

towards their own health and obtain appropriate health information from reliable sources to help them decide correctly on health care, thus caused self-medication to become one of the most important aspects of the health care system [2].

Self-medication is not limited to synthetic drugs so today, the numbers of official herbal medicines used in the treatment of diseases is growing compared to the total numbers of official medicines in the world [3] and many pregnant women experience self-medicating with the notion that natural treatments using herbal medicines are not problematic with no maternal and fetal side effects [4]. Studies in several countries have reported differences in using herbal medicine in pregnancy period, for example, in a study by Ernest using herbal medicines in pregnancy varied from 12% (Australia - Norway) to 55 % (in Africa) [1]. In a study conducted in Shahrekord (town), 51.9% of pregnant women had used herbal medicines remedies [5]. According to the findings of some studies, the arbitrary use of herbal medicines in pregnancy can cause uterine contractions. Strandberg's study showed that high amounts of licorice can increase the risk of premature delivery 2 to 3 times and during pregnancy can cause miscarriage [6].

Some steps should be taken to reduce the self-medication of drugs among pregnant women in our society. Unconditional limitation of access to the drugs, especially harmful drugs, public education to rational drug consumption and limiting the number and types of medications keeping at home, improving the quality of health services and increasing access to community services provision system [2]. Due to the increasingly widespread phenomenon of self-medication and one's direct role in selection and use of drugs, it is necessary to determine affecting factors on changing the behavior of individuals to access appropriate health behavior [7, 8], so the researcher intended to study the prevalence and causes of pregnancy-related problems of self-medication to take a step towards improving the drug consumption culture and the health of mothers and women.

In Bangladesh, the commonness of self-solution of pregnant ladies is thought to be high, more often than not ascribed to the way that most medication can be acquired from drug store without prescription. Subsequently, illnesses of pregnant ladies are treated with drugs which might have a potential to harm the individual as well as the society at large. But there is no sufficient study has been conducted in Bangladesh on self-medication of drugs among pregnant women. Therefore the present study was undertaken to determine the knowledge, attitude, and practice of pregnant women of Bangladesh in terms of self-medication.

2. Methodology

2.1. Setting and Design

The research was conducted in Rajshahi city, Bangladesh. Rajshahi is situated in the north-west of Bangladesh and the divisional central command of Rajshahi Division and

additionally the managerial region that bears its name and is one of the seven metropolitan urban areas of Bangladesh having an expected populace of 853,000. Its aggregate region is 96.69 km² (37.33 sq mi) and is arranged on the northern banks of the waterway Padma (or Ganges which is one of the real streams of the Indian subcontinent). Rajshahi comprises of 4 Thanas, 35 Wards and 175 Mahallahs [9]. In this survey patient sample was taken from-a) Women and children health care centre, Rajshahi, b) Meristopes clinic, Rajshahi, c) Urban health care centre, Rajshahi, d) Rajshahi Medical College Hospital, Outdoor, Rajshahi, e) Maternity Clinic, Rajshahi and f) Islami Bank Medical College Hospital, Rajshahi. The pregnant women were questioned using pre-determined questionnaire and the statistic was done by their answers.

2.2. Data Collection

This cross-sectional health survey was carried out with a self-designed standard questionnaire by directly interviewing the 650 pregnant women in Rajshahi city from January 2015 to April 2015 following WHO rules and British National Formulary. The questionnaire contained some essential variables: age, occupation, education level, monthly family income, delivery number and maternal age of women, the types of drugs commonly purchased, the reasons for which the women engaged in self-medication, the self-recognized symptoms for which the drugs were used and completion of course of antibiotics. The questionnaires were self-administered and where necessary, were administered on the patients by the research team with the aid of the assistants who had been trained for the study. No financial or material incentive was offered to participants. Written consent was taken from each woman during this study. Oral parenteral consent was taken for participants under the age of 16 years. The questionnaire took about 20 minutes to complete and contained mainly close ended questions. The data collectors went to the hospitals and clinics and persuaded the patient's to participate in the interview session. The dialect of the questionnaire was English which is translated Bengali dialect by the data collectors to the participants whom primary language is Bengali. The Bengali answers given by the respondents translated to the English languages by the data collectors. The patients who were enduring with psychiatric ailments and who were admitted into hospitals/clinics were excluded from the study. Few questionnaires were excluded during the data analysis because of inadequate information.

2.3. Statistical Analysis

Data were analyzed by Microsoft Excel software-2007. Descriptive statistics (frequency distribution, mean and percentages) were applied to express the obtained data.

2.4. Ethical Considerations

The study was directed after the general principles (section 12) of WMA declaration of Helsinki and logistically bolstered by the Department of Pharmacy, Jessore University

of Science and Technology. The human subjects required in this study did not utilize any perilous specialists and tests were not gathered from them. As the human subjects just participated in the interview it was not an essential to take any further endorsement from institutional morals advisory group to lead this survey based research.

3. Results

This is the first health survey in Bangladesh on pregnant women self-curing themselves with medications and was conducted in Rajshahi city of Bangladesh taking after WHO treatment rules and British National Formulary by self-designed standard structured questionnaires. In this study, we observed that an incredible part of study populations around 79 (12.2%) pregnant women out of 650 pregnant women self-medicated with drugs amid their pregnancy period, where near about 90% of pregnant women were housewife, 7.6% were service holder and slightest numbers were understudies (2.5%). The most prevalent aged group was 15-20 years (35.4%) trailed by 30.4% in the aged between 21-25

years and 24.1% in the aged group 26-30 years. The patients aged between 36-40 years (2.5%) purchased the least amount of drugs without prescription. We likewise found that a large portion of the self-cured pregnant ladies (84.8%) originated from low pay family (less than 10000 BDT), 13.9% having month to month family salary in the range of 10000 to 20000 BDT and 1.3% ladies originated from high wage family (more than 20000 BDT). We noticed that 54.4% pregnant women finished their primary school level, 27.8% secondary level, 6.3% graduation level but 11.4% were illiterate. Amid the pregnancy period of first time delivery a major portion of pregnant women (46.8%) took medicines without prescription and this inclination slowly diminished with the expanded of delivery number. Pregnant women who deliver more than three times infant took drugs without prescription at low sum (3.8%). An enormous segment of pregnant women (72.2%) were married at the aged between 16-20 years, 21.5% were between 21-25 years and least amount of women 1.3% were wedded more than 30 years of age appeared in Table 1.

Table 1. Prevalence of self-medication of drugs and demographic characteristics of the patient.

Question pattern	Response pattern	Frequency N=650	Percentage
Prevalence of self-medication	Drug Consumption without any prescription	79	12.2%
	Prescribed Drug Consumption	571	87.8%
Age in years of population (79) having self-medicated drugs	15-20	28	35.4%
	21-25	24	30.4%
	26-30	19	24.1%
	31-35	6	7.6%
	36-40	2	2.5%
	>40	0	0%
	<10,000Tk	67	84.8%
Monthly family income of population (79) having self-medicated drugs	10,000-20,000Tk	11	13.9%
	>20,000Tk	1	1.3%
	Service Holder	6	7.6%
Occupation of population (79) having self-medicated drugs	Student	2	2.5%
	Housewife	71	89.9%
	Illiterate	9	11.4%
Education level of population (79) having self-medicated drugs	Primary	43	54.4%
	Secondary	22	27.8%
	Graduation	5	6.3%
	1	37	46.8%
Delivery Number of population (79) having self-medicated drugs	2	29	36.7%
	3	10	12.7%
	>3	3	3.8%
	<15	2	2.5%
	16-20	57	72.2%
Maternal age of population (79) having self-medicated drugs	21-25	17	21.5%
	26-30	2	2.5%
	30>	1	1.3%

The fundamental pathological conditions that forced the pregnant ladies to buy the drugs autonomously were gastric acidity (32.9%), infection (24.1%), cold & fever (21.5%), pain (12.7%), vomiting (8.9%), disorders related to pregnancy (7.6%), dysentery, diarrhea & food poisoning (5.1%), dental carries & toothache (3.8%) and anemia (2.5%). The obsessive conditions that imposed the minimal measure of pregnant women to take the medications without prescriptions were hypertension, skin diseases, allergic disorder, UTI, gonorrhea and sore throat shown in Figure 1.

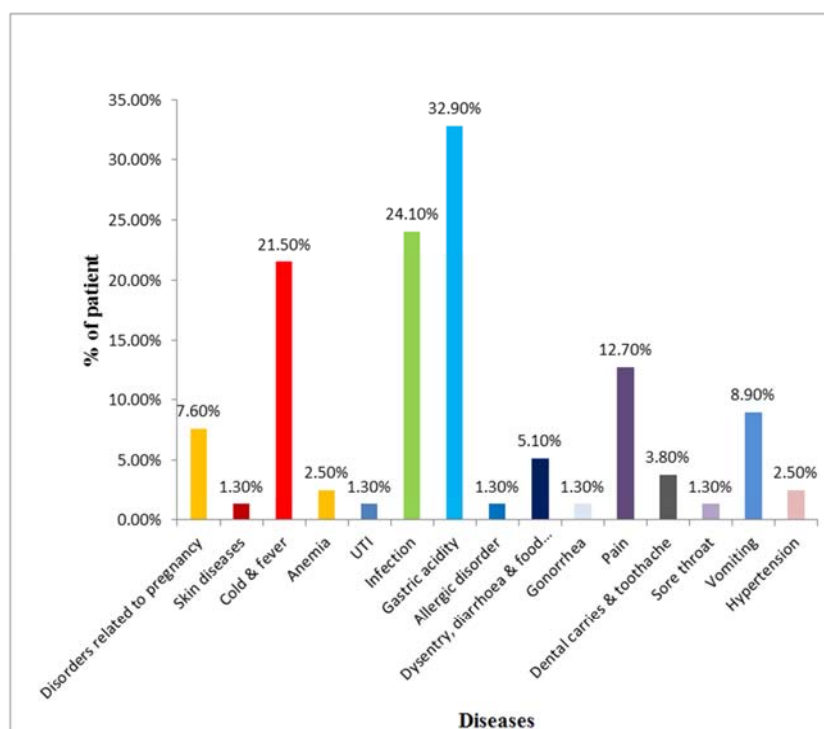


Figure 1. Pathological conditions for self-medication of drugs.

The highest purchased self-medicated drugs were antacid (27.8%) followed by NSAIDs (26.6%), iron (15.2%), vitamins and minerals (12.7%), ayurvedic preparations (5.1%) and antiemetic (5.1%). The slightest bought medications without prescription by pregnant ladies were antibiotics (3.8%), anti-histamine (2.5%) and phenobarbitone (1.3%), Figure 2. The key purposes behind self-medication of drugs among study populations were availability of drugs (42.0%), pre-experience (20.8%), emergency usage (11.2%), knowledge about drugs (10.0%), advice from traditional healers (8.0%), non-serious illness (5.1%) and lack of faith in doctor's practice (2.9%) shown in Figure 3.

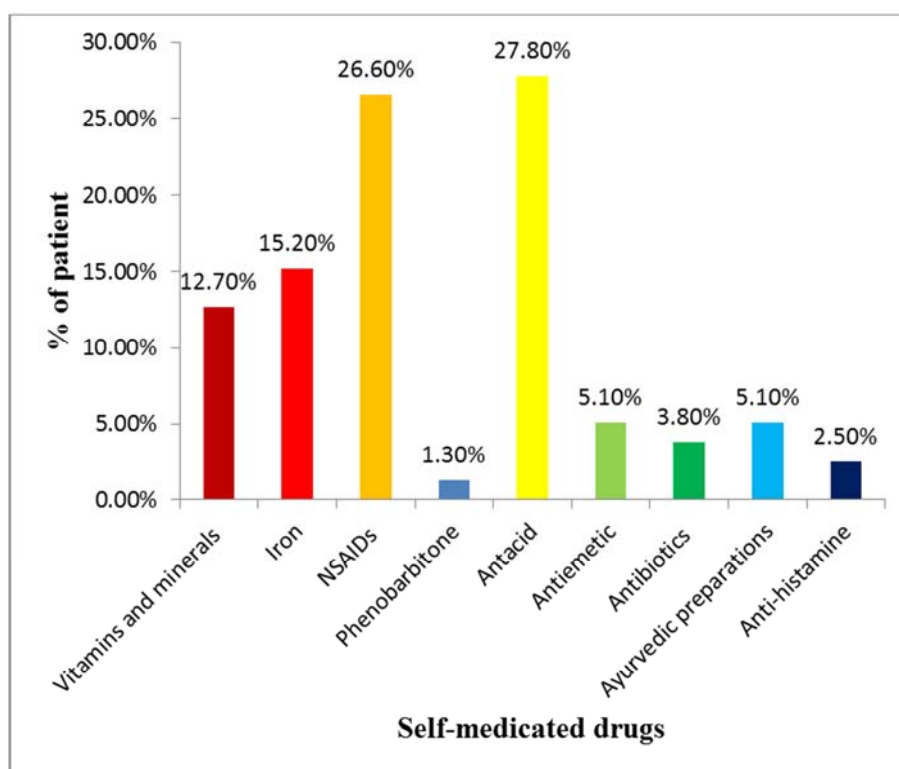


Figure 2. Therapeutic classifications of self-medicated drugs.

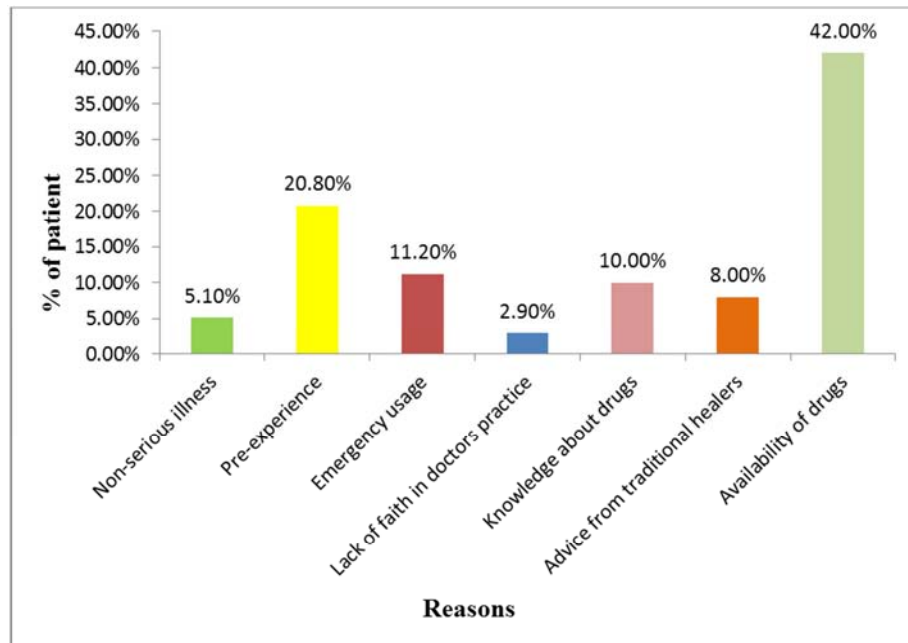


Figure 3. Reasons for self-medication of drugs.

We observed that the pregnant women used different classes of antibiotics for curing infection and other ailments. In our study we just highlighted the course of antibiotics whether they completed or not. Strikingly only 29.1% pregnant women finished their anti-microbial course, 44.3% pregnant ladies did not finish the anti-infection course and 26.6% pregnant women have no learning about course of antibiotic and have no remarks about anti-microbial course, Figure 4.

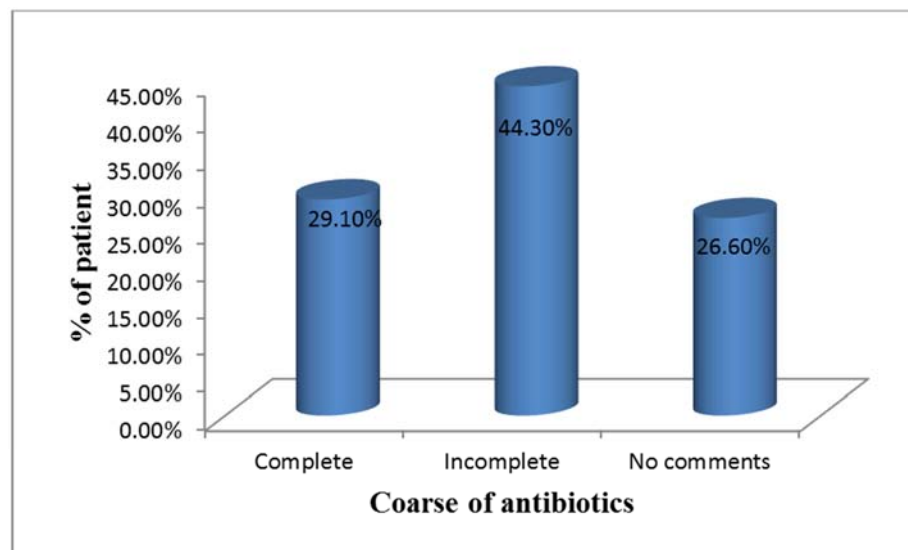


Figure 4. Completion of course of self-medicated antibiotics.

4. Discussion

This study investigated the nature and practice of self-medication of drugs during pregnancy period among women of Rajshahi city, Bangladesh. About 12.2% of the study participants were self-medicated. Our survey data from this study was lower than the results of another study conducted by Baghianimoghadam and Ehrampoush in Yazd, where they concluded that 85% of people in Yazd self-medicated [10]. However, the current study only included pregnant women

for whom self-medication can be more hazardous. It is also not significant if compared to the Helst research in Norway (2008) (57.8%). Several studies have revealed that women self-medicate themselves during pregnancy though there are concerns regarding the adverse effects of any medications taken during pregnancy [11, 12]. For this self-medication of the pregnant mothers has always been a concern for the health care professionalisms. It is evident from different observations from these studies on medications during pregnancy that medication system, methodology (such as prescription collection, interview, chart review etc.) and

health care settings differ in developing and developed countries [13, 14]. Moreover, the methodology difference in all the studies conducted on pregnant women self-medication made the comparison difficult for us to compare our result with other studies. In our study we saw that approximately 42% of the pregnant women self-medicated themselves because of the availability of medications without prescription. Our results resembled with previous studies conducted in the India, Iran, six Latin American countries, Italy, Germany, United States and United Kingdom [15-21]. All these survey results indicated availability of the medications without prescription is primarily accountable for the self-medication of the pregnant women and suggested that a general solution should be made for this problem worldwide. In Bangladesh, health practitioners must enlighten the general people and enhance their awareness about the potential risks of self-medication and, if possible, ordering strictly by the drug administration of our country to prevent selling of medications without prescriptions.

In one study of pregnant women 81.1% of them follow prescription which is similar to our study (87.8%). The most frequent self-medication cases belonged to, in this study, digestive disorders named gastric acidity (32.9%) consistent with Kazeroon study case [22]. In Nordeng study 2004, the most common cases of self-medication were in herbal medicines of cold and respiratory diseases, the most prevalent reasons for self-medication in this study were mildness of illness, expensiveness of medicinal costs and harmlessness of herbal products (2002) that is consistent with Shanker study [23]. While in our study we saw that pregnant women self-medicated themselves in case of gastric acidity (32.9%), infection (24.1%), cold & fever (21.5%), pain (12.7%), vomiting (8.9%), disorders related to pregnancy (7.6%), dysentery, diarrhea & food poisoning (5.1%), dental carries & toothache (3.8%) and anemia (2.5%). In Kerman City, reusing prescribed drugs, inability to afford the physician's fee and the costly medical services have been the most common reasons for self-medication [24]. While in our study the prevalent reasons of self-medication were availability of drugs (42.0%), pre-experience (20.8%), emergency usage (11.2%), knowledge about drugs (10.0%), advice from traditional healers (8.0%), non-serious illness (5.1%) and lack of faith in doctor's practice (2.9%).

In our study we observed that the pregnant women took different categories of drugs for treatment of their diseases. Interestingly they bought 3.8% antibiotics for treatment of their ailments without prescription which is alarming for our society. We also noticed that a great portion of participants (44.3%) did not complete the course of antibiotics. There is no relevant data in our previous studies for comparison with our data. As we know some antibiotics have teratogenic effect and according to the intensity of their teratogenic activity they are placed in different pregnancy categories. So taking antibiotic without prescription might cause teratogenicity in the pregnant women if not handled with extreme care. Again one antibiotic may not be safe for the pregnant women in every trimester. So if a situation appears

to use antibiotics then it should be cautiously prescribed by a health care specialist. We recommend the future researcher for conducting further studies regarding fetotoxicity and teratogenicity of self-medication of antibiotics amid pregnancy period of women.

5. Conclusions

In our study we can see that self-prescription of medications among pregnant ladies in our nation is regular like other developing nations. Self-prescription can diminish future and personal satisfaction of the populace. In addition self-medication propensity among pregnant women could hamper the future generation as it intensely affects the embryo. Effective factors for this problem are community-related, for which solving social issues is the solution. It is vital for powers to arrange instruction programs, build up offices to empower less demanding visits to doctors, and prevent the sale of non-prescription medications. To keep off this self-medication propensity we can dispatch awareness program socially or by media, by orchestrating seminars, by expanding the quantity of government maternity care centre from where they can take the important consideration in modest cost and educate all the pregnant ladies about the awful impacts of self-medication.

Abbreviations

NSAID: Non-Steroidal Anti-inflammatory Drug; WHO: World Health Organization; WMA: World Medical Association.

Competing Interests

The authors declare that they have no competing interests.

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