

Original Article

Attitude and Practice of Pregnant Women Regarding Self-medication in Yazd, Iran

Mohammad Hossein Baghianimoghadam PhD¹, Shahnaz Mojahed MSc², Maleknaz Baghianimoghadam MD³, Narges Yousefi MSc⁴, Razieh Zolghadr MSc⁵

Abstract

Background: Medications, a main strategic commodity in any country, are strictly related to community health and sustainable development. Self-medication and irregular use of medications can increase their adverse effects. This study investigated the factors related to irregular and arbitrary use of medications in pregnant women admitted to health centers and clinics of Yazd, Iran, and their practice in this context.

Methods: This was a descriptive- analytic cross-sectional study conducted among 180 pregnant women. Participants were selected by cluster sampling. We chose six health centers and clinics from all medical centers in Yazd by a simple random method. A questionnaire was completed by the pregnant women who were consecutively admitted to each center. Data were analyzed by ANOVA, *t*-test, Chi-square, and Pearson tests with SPSS-15 software.

Results: More than 35% of the women self-medicated during pregnancy. Women with academic degrees scored higher in the knowledge section; however, this difference was not significant. The mean attitude scores for academic and nonacademic graduates were 34.92 (from 60) and 29.87, respectively while the mean practice scores were 15 (from 20) and 14.25 for academic and non-academic graduates, respectively.

Conclusion: The results of this study showed an increased prevalence of self-medication among pregnant women. Because of potential fetomaternal hazards related to medications, it is necessary to conduct educational programs to prevent this harmful habit and attitude in pregnant women.

Keywords: Attitude, practice, pregnant women, self-medication

Cite the article as: Baghianimoghadam MH, Mojahed S, Baghianimoghadam M, Yousefi N, Zolghadr R. Attitude and Practice of Pregnant Women Regarding Self-medication in Yazd, Iran. *Arch Iran Med.* 2013; **16(10)**: 580 – 583.

Introduction

Medications are a strategic, important commodity with a direct relation to community's health and sustainable development. Authorities in each country are responsible to supply it. All medications have a number of adverse effects, which can be increased by arbitrary and irregular use. It is doubtful that all consumers are aware that medications, in addition to their pharmacologic benefits, also have adverse effects.¹

Analgesics are the most commonly used drugs for self-medication, followed by eye drops and antibiotics.² Over-the-counter (OTC) medications are sold directly to a consumer without the need for a prescription from a healthcare professional, compared to prescription drugs, which are only sold to consumers who possess a valid prescription.³ Self-treatment may occur with either a manufactured or homemade medication. Incorrect use of medications without a prescription occur by any of the following: using previously prescribed drugs for similar illnesses or conditions,

dividing a prescribed drug between different people, and using extra needed (drugs were prescribed for previous illness but some of them were not used and stored at home and patients use it or advise it to others for similar illnesses) drugs or arbitrary use of drugs by consuming either extra doses or less than the prescribed dose.⁴⁻⁸ Self-medication may cause many adverse effects that need specific treatment and may result in numerous complications for patients. People with low socioeconomic status may use medications because they have been recommended by a relative who has previously taken the same medication. Others do not believe that physicians correctly diagnose their conditions.⁹ According to estimates, approximately one-third of pregnant women self-medicate. A number of medications on the market can be harmful during pregnancy. Medications prescribed during pregnancy are normally based on evaluation of their harm to the mother and fetus. In most cases the first choice for treatment of a condition during pregnancy differs from treatment in nonpregnant women. Therefore, pregnant women must use the lowest therapeutic dose of medications.¹⁰

Studies have shown that Iranians have a major problem in this context. In a study from Ramhormoz, Iran, 100% of patients believed that a physician must prescribe medications to their patients. Approximately 94% were unaware of the adverse effects of medications, 84% kept medications at their homes, and 94% self-medicated.¹¹ In a study from Yazd, it was shown that 83% of university students self-medicated. Men self-medicated more frequently than women. Additionally, they believed that the medications consumed were harmless.¹²

Authors' affiliations: ¹Department of Health Services, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. ²School of Nursing and Midwifery, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. ³Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. ⁴Department of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. ⁵Department of Health Education, Faculty of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

•**Corresponding author and reprints:** Shahnaz Mojahed MSc, School of Nursing and Midwifery, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. Tel: +98-351-824-1751, Fax: +98-351-824-9705,

E-mail: mojahed@ssu.ac.ir, sh_mojahed@yahoo.com.

Accepted for publication: 22 April 2013

By taking into consideration the potential fetomaternal effects of self-medication, this study aimed to determine the knowledge, attitude, and practice of pregnant women in terms of self-medication. Hopefully, based on the results of this study, we can plan educational programs to prevent self-medication among pregnant women and their possible side effects.

Materials and Methods

After approval of the institutional ethics committee, this descriptive-analytic cross-sectional study was conducted among pregnant women admitted to Yazd health centers and clinics. For sample size determination, we undertook a preliminary pilot study of 12 pregnant women who were not included in the main study. Based on this preliminary study and with a precision of 5%, we calculated the sample size to be 165 participants. However, to increase the study precision, we included 180 pregnant women in the study. Next, we divided the health centers and clinics into six clusters and randomly chose one center from each cluster. We developed a questionnaire after consulting with two health educators, a pharmacologist, and an expert in questionnaire validation. In each center, the questionnaires were completed by 30 consecutively admitted women after explaining the process of the study and acceptance of participants; all were six months pregnant. The questionnaire was composed of 30 questions in the following categories: demographic factors (10 questions) and practice (six questions) with total scores of 20; sources of information obtained (one question); and attitude (13 questions), of which the highest score for each question in this section was 5, with a total score of 65. For internal consistency, we used the alpha Cronbach test which had an index of 0.77. A total of six specialists in health education, gynecology, and pharmacology confirmed the reliability of the questionnaire. All data were transferred to SPSS-15 software and analyzed by the *t*-test, ANOVA, Chi-square, and Pearson tests. A *P*-value of < 0.05 was considered statistically significant.

Results

Demographic characteristics of the participants are shown in Table 1. Over 35% of the pregnant women self-medicated. The frequency and mean scores of the pregnant women's attitudes regarding self-medication are listed in Table 2. Attitude and practice scores in the educated pregnant women were higher than the uneducated women; however, this difference was not statistically significant.

Table 1. Demographic variables of the study participants

Variables	Number (%)	Total n (%)
Literacy		
Illiterate	8 (4.45)	180 (100)
Less than diploma	55 (30.55)	
Diploma	64 (35.55)	
Academic	53 (29.45)	
Residence		
City	171(95)	180 (100)
Village	9 (5)	
Age (years)		
<25	46 (25.55)	180 (100)
25-35	106 (58.9)	
>35	28 (15.55)	
Economic status		
Prosperous	78 (43.3)	180 (100)
Middle income	99 (55)	
Poor	3 (1.7)	

The mean attitude scores for academic and nonacademic graduates were 34.92 (from total attainable score of 60) and 29.87, respectively while the mean practice scores were 15 (from total attainable score of 20) and 14.25 for academic and nonacademic graduates, respectively.

The question with the highest attitude score was: "There is no need for a doctor's recommendation. I know instructions for drug usage". The participants' mean score for this question was 4.12 out of 5. The lowest score for attitude was for the question: "Financial problems are the most important cause for self-medication." The mean score for this question was 2.73 out of 5 (Table 2). The opium-addicted pregnant women had lower mean scores for practice when compared with other participants (*P* = 0.001; Table 3). There was no significant relationship between age and attitude (*P* = 0.585) or practice (*P* = 0.688); however, there was a significant difference between attitude and practice (*P* = 0.001; Table 3). Of the participants, 17 had chronic diseases which required the use of prescription drugs. The mean attitude score for these women was 29.11 ± 15.45, whereas other participants scored 33.25 ± 8.40 (*P* = 0.588). For practice, the mean score for pregnant women with chronic diseases was 14.11 ± 5.92; other women scored 15.71 ± 5.21 (*P* = 0.245).

Discussion

This study investigated the attitude and practice of pregnant women in terms of self-medication who were admitted to Yazd health centers and clinics. Over 35% of the study participants self-medicated. The data from this study did not support the results of another study in Yazd by Baghianimoghadam et al., where they concluded that 85% of people in Yazd self-medicated. However, the current study only included pregnant women for whom self-medication can be more hazardous.¹² The mean scores for attitude and practice in the educated pregnant women were higher than the noneducated pregnant women, but this difference was not significant (*P* = 0.232). This finding supported the results of a study by Shamsi and Bayati¹³ that found no relation between demographics and self-medication.

In the present study, the respondents answered the question: non-prescription drugs are one of the most important causes of self-medication," as: very high (26.1%), high (16.1%), and moderate (25.6%). In total, approximately 67.8% of the pregnant women stated that availability of nonprescription medications was a leading cause for their self-medication. These results agreed with numerous worldwide studies. Similar results have been reported by Sharma et al.¹⁴ (India), Tajik et al.¹⁵ (Iran), a study in six Latin American countries,¹⁶ Motola et al.¹⁷ (Italy), Uehleke and Steinhoff¹⁸ (Germany), studies by Bonner et al.,¹⁹ Neafsy et al.,²⁰ Ferris et al.,²¹ and Tonore and Kings²² in the United States, and Preshaw et al.²³ (United Kingdom). The results show that sales of nonprescription medications are one of the most important causes of self-medication worldwide. These studies indicate that a global solution should be discovered for this problem. In Iran, clinicians must increase people's awareness about the potential risks of self-medication and, if possible, prevent selling of medications without prescriptions.

Our study showed that lack of knowledge about the disease, lack of time for doctor visits, and satisfaction from the results of self-medication were other reasons for self-medication. A study by Tajik et al.,¹⁵ among others,^{19,21} also showed that lack of time for doc-

Table 2. Frequency and mean scores of attitude in the pregnant women regarding self-medication.

Effective factors on self-medication	Scores of attitude										Mean	SD
	Very high		High		Moderate		Low		Very low			
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%		
When I know my disease, there is no need to visit a doctor.	12	6.7	19	10.6	52	28.9	83	46.1	14	7.7	2.93	1.22
Drugs I have used until now were harmless.	43	23.9	25	13.9	20	11.1	41	22.8	51	28.3	3.18	1.72
I have enough knowledge about the side effects of the drugs I use.	27	15	12	6.7	47	26.1	43	23.9	51	28.3	3.43	1.4
Because I cannot use drugs based on a doctor's instructions, there is no need for a prescription.	14	7.8	8	4.4	25	13.9	45	25	88	48.9	4.02	1.35
There is no need for a doctor's recommendation; I know how to take my medications.	16	8.9	8	4.4	10	5.6	51	28.3	95	52.8	4.12	1.32
I think using drugs on time is important, not my doctor's prescription.	17	9.4	18	10	22	12.2	38	21.1	85	47.3	3.87	1.38
I don't go to the doctor because some of them don't prescribe any drugs.	13	7.2	14	7.8	30	16.7	51	28.3	72	40	3.86	1.31
I have no trust in the doctor's treatment.	12	6.7	9	5	25	13.9	54	30	80	44.4	4.01	1.37
Financial problems are one of the most important causes of self-medication.	45	25	41	22.8	41	22.8	23	12.7	30	16.7	2.73	1.4
Non- prescription drugs are one of the most important causes of self-medication.	47	26.1	29	16.1	46	25.6	30	16.7	28	15.5	2.79	1.4
I had an emergency problem, and then I had to use drugs without a prescription.	16	10.7	27	18	29	19.3	45	30	33	22	3.34	1.39
Self-medication for me has always had good results.	7	3.89	20	11.1	39	21.7	51	28.3	63	35	3.79	1.19
I don't have enough time to go to a doctor for every problem.	16	8.89	16	8.89	38	21.1	62	34.4	48	26.7	3.61	1.27

tor visits and unawareness about medication adverse effects were causes for self-medication. A total of 52.2% of pregnant women reported that their knowledge about medication adverse effects was either low or very low. Minaee²⁴ concluded that 98.3% of pregnant women had a good knowledge about medication adverse effects. Our study did not confirm these results. Shamsi et al. reported that knowledge of pregnant women about self-medication was at a moderate level.²⁵ In the current study, the results showed that approximately 50% of the pregnant women believed that medications were harmless and 36% stated that they had good results from self-medication and preferred to continue. These results supported a study by Nichter and Vuckovic.²⁶ The mean score of the pregnant women who were not addicts (15.97) was higher than the opium-addicted (10.38) pregnant women. The relation between addiction and practice was significant; however, there was no significant relation between addiction and attitude. Our study showed no relationship between age and attitude or practice, but there was a direct relation between attitude and practice. These results agreed with other studies.^{27,28} In a study conducted by Oliveira Filho et al. in Brazil (2012),²⁹ although most patients

used prescribed drugs during pregnancy, the rate of medication adherence was low. The results of this study emphasized the necessity for pregnant women to be under constant follow-up and undergo education regarding medication adherence. Participants expressed a lack of knowledge about self-medication and additionally they did not effectively use their prescribed medications. The important issue in this study was that people with higher education levels had more nonadherence for prescribed drugs. This study showed that thoughtfully-designed educational programs must be undertaken to fill the gap between people's ideas and reality.

Generally, the results of this study as well as similar studies show that self-medication is a major concern in most countries, particularly Iran. Self-medication can decrease life expectancy and quality of life. Effective factors for this problem are community-related, for which solving social issues is the solution. It is necessary for authorities to plan education programs, establish facilities to enable easier visits to physicians, and prevent the sale of nonprescription medications.

Table 3. Relation between addiction and mean scores of attitude and practice according to self-medication in the study population.

Addiction	Attitude			P-value
	Number	Mean	SD	
Yes	13	24.76	14.28	0.08
No	167	34.49	8.56	
Total	180	32.86	9.31	
	Practice			
Yes	13	10.38	6.6	0.001
No	167	15.97	9.47	
Total	180	15.56	5.29	

Table 4. Pearson correlation coefficient between age, attitude, and practice among the pregnant women regarding self-medication.

Variable	Number	Pearson	P-value
Age and attitude	180	-0.041	0.585
Age and practice	180	0.03	0.688
Attitude and practice	180	0.347	0.001

Conflict of interest: All authors declare that they have no conflict of interest.

References

- World Health Organization. How to develop and implement a national drug policy. Updates and replaces: Guidelines for Developing National Drug Policies (1988). 2nd ed. 2001. Available from: URL: <http://apps.who.int/medicinedocs/pdf/s2283e/s2283e.pdf> (Accessed date 2013/10/5)
- Fox JM. Use of analgesics in self-medication. *Therapie*. 2002; **57**: 115 – 118.
- Traynor K. FDA mulls expanded universe of nonprescription drugs. *Am J Health Syst Pharm*. 2012; **69**: 734 – 735.
- Lazarek S, Robinson JA, Crum RM, Mojtabai R, Sareen J, Bolton JM. A longitudinal investigation of the role of self-medication in the development of comorbid mood and drug use disorders: findings from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *J Clin Psychiatry*. 2012; **73**: e588 – e593.
- Yasein NA, Barghouti FF, Irshaid YM, Suleiman AA. Discrepancies between elderly patient's self-reported and prescribed medications: a social investigation. *Scand J Caring Sci*. 2013; **27**: 131 – 138.
- Correa da Silva MG, Soares MC, Muccillo-Baisch AL. Self-medication in university students from the city of Rio Grande, Brazil. *BMC Public Health*. 2012; **12**: 339.
- Kaushal J, Gupta MC, Jindal P, Verma S. Self-medication patterns and drug use behavior in housewives belonging to the middle income group in a city in northern India. *Indian J Community Med*. 2012; **37**: 16 – 19.
- Adedapo HA, Lawal AO, Adisa AO, Adeyemi BF. Non-doctor consultations and self-medication practices in patients seen at a tertiary dental center in Ibadan. *Indian J Dent Res*. 2011; **22**: 795 – 798.
- Guille C, Sen S. Prescription drug use and self-prescription among training physicians. *Arch Intern Med*. 2012; **172**: 371 – 372.
- Briggs G, Freeman RK, Yaffe SJ. *Drugs in Pregnancy and Lactation: a Reference Guide to Fetal and Neonatal Risk*. Unites States: Lippincott Williams & Wilkins; 2011.
- Moghbel A. A survey about the reason of bad assuming the drug in Ramhormoz City [in Persian]. *Darou va Darman*. 1994; **10**: 13 – 21.
- Baghianimoghadam MH, Ehrampoush MH. A survey about attitude and practice of medical university students about self-medication of drugs [in Persian]. *Tabibe-Shargh*. 2006; **8**: 111 – 119.
- Shamsi M, Bayati A. The effect of education on knowledge, attitude, and practice of pregnant woman referring to health centers about self-medication in Arak City. *Ofogh-e-Danesh*. 2009; **15**: 27 – 35.
- Sharma R, Verma U, Sharma CL, Kapoor B. Self-medication among urban population of Jammu City. *Indian J Pharmacol*. 2005; **37**: 40 – 43.
- Tajik R, Shamsi M, Mohammad Beygee M. A survey of the prevalence of self-medication and factors effected in women in Arak City [in Persian]. *Nasim-e-Danesh*. 2009; **16**: 29 – 34.
- Drug Utilization Research Group, Latin American. Multi-center study on self-medication and self-prescription in six Latin American countries. *Clin Pharmacol Ther*. 1997; **61**: 488 – 493.
- Motola G, Russo F, Mazzeo F, Rinaldi B, Capuano A, Rossi F, et al. Over-the-counter oral non-steroidal anti-inflammatory drugs: a pharmacoepidemiologic study in southern Italy. *Adv Ther*. 2001; **18**: 216 – 222.
- Uehleke B, Steinhoff B. Self-medication in Germany. *Int J Clin Pharmacol Ther*. 2001; **39**: 424 – 427.
- Bonner S, Zimmerman BJ, Evans D, Irigoyen M, Resnick D, Mellins RB. An individualized intervention to improve asthma management among Urban Latino and African-American families. *J Asthma*. 2002; **39**: 167 – 179.
- Neafsy PJ, Strickler Z, Shellman J, Padula AT. Delivering health information about self-medication to older adults: Use of touch screen equipped note book computer. *J Gerontol Nurs*. 2001; **27**: 19 – 27.
- Ferris DG, Nyirjesy P, Sobel JD, Soper D, Pavletic A, Litaker MS. Over-the-counter antifungal drug misuse associated with patient-diagnosed vulvovaginal candidiasis. *Obstet Gynecol*. 2002; **99**: 419 – 425.
- Tonore TB, Kings DS. Do over-the-counter medications for migraine hinder the physician? *Curr Pain Headache Rep*. 2002; **6**: 162 – 167.
- Preshaw PM, Meechan JG, Dodd MD. Self-medication for the control of dental pain: What are our patients taking? *Dent Update*. 1994; **21**: 299 – 304.
- Minaee T. A survey about knowledge, attitude, and practice of women about self-medication of drugs in pregnancy period. A dissertation for graduation in MS of Health Education. Shahid Beheshti University of Medical Sciences; 2009 [in Persian].
- Shamsi M, Bayati AK, Mohammad Beighi A, Tajik R. The effect of educational program based on health belief model (HBM) on preventive behavior of self-medication in women with pregnancy in Arak, Iran [in Persian]. *Pejouhandeh*. 2010; **14**: 324 – 331.
- Nichter M, Vuckovic N. Agenda for anthropology of pharmaceutical practice. *Dci Med*. 1994; **39**: 1509 – 1525.
- Caamano-Isorna F, Montes A, Takkouche B, Gestal-Otero JJ. Do pharmacists' opinions affect their decision to dispense or recommend a visit to a doctor? *Pharmacoepidemiol Drug Saf*. 2005; **14**: 659 – 664.
- Drhova L. Knowledge, attitude, and behavior of the population of the Czech Republic to self-medication. (Knowledge of and information on drugs.) *Ceska Slov Farm*. 2005; **54**: 123 – 129.
- Oliveira Filho AD, Gama DP, Leopardi MD, Dias JM, Lyra Júnior DP, Neves SJ. Self-reported adherence to prescribed medicines during pregnancy. *Rev Bras Ginecol Obstet*. 2012; **34**: 147 – 152.