Prevalence and causes of self-medication in postmenopausal women referring to health centers in Ahwaz, Iran

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ABSTRACT

Self-medication is one of the most important health-social concerns, especially in the women society in postmenopausal period. This study aimed to determine the prevalence and causes of self-medication in postmenopausal women visiting health centers in Ahwaz. In this –analytical-descriptive study, 650 postmenopausal women referring to seven health centers in Ahwaz were randomly chosen as the research units, based on the family's medical file numberand their appropriate allocation and then asemi-structured questionnaire was completed through some interviews. Our results showed that 32.8% of menopausal women had experienced self-medication. The highest frequency belonged to the age group of 45- to 55-year-olds. Not believing in the effectiveness of the physicians and the influence of herbal products are the most common reasons for self-medicating (51.7%). The most common reasons for using synthetic drugs are as follows: previous illness (62.3%), in the case of herbal remedies and medicinal plants, the effectiveness of these products was considered (35.2, 58.6%). Considering the high rate of self-medication, proper strategies to promote the level of public culture and inclusive education based on the principle of "prevention is prior to treatment", shall be effective in preventing self-medication.

Keywords: self-medication, menopause, synthetic drugs, herbal remedies, medicinal plants

INTRODUCTION

The purpose of medicine is to protect and promote the society's health and developing it in the patients. This objective is achieved through a set of factors in which providing and distributing drugs play one of the main roles.(1). Drug as a strategic and subsidized commodity in the country and a public necessity, has always been of great importance (2). Current patterns of using drugs based on treatment groups reflects the fact that our society doesn't follow a standardized and rational method of using drugs (3); on the other hand, public growth and awareness, have motivated people to play a greater role in their own health and thus cause the self-medication to become one of the most important aspects of the health care system (4).Self-medication considered as the most common form of self-care is to obtain and use drug

item/s without physician's monitoring or prescription or medical supervision including herbal or synthetic drugs (1).Self-medication helps in curing mild illnesses that require no medical advice and hence declines the pressure on the health care system especially in developing countries with inadequate health care resources (5). The shape and extent of self-medication and reasons are varied in different countries (6-7). Factors like socioeconomic factors, lifestyle, easy access to drugs, tendency to self -caring and abundance of drugs, play a significant role in increasing self-medication(8). In addition, patients' satisfaction of health providers, education level and age, are self-medicating affecting factors (9).

Some have noted that aging alters some abilities of the body to fight drugs so that as we age the body's basal metabolic rate, and liver enzyme activities

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decrease and provide the conditions for extension of drugs half-life (12-11-10).

Following aging, glomerular filtration rate and renal blood flow decrease and loss of kidney function occurs; hence the drug concentration is a major risk (13).With aging, the central nervous system becomes sensitive to various ranges of drugs, cardiovascular reflexes will be damaged and compensatory mechanisms will be inefficient (15-14-12). Self-medication patterns also depend on the gender in the case of adults(16), as women tend particularly to self-medicateand repeatedly apply various drugs to treat problems such as menopausal symptoms, menstrual disorder, and mood disorder as well as osteoporosis prevention (17).Patients' dissatisfaction with conventional medicine and self-control over their care , fitness and philosophical proportion of these methods with life values, health and well-fare (18) (50) has caused self-medication not only to be limited to synthetic drugs ,but also patients refer to herbal remedies to treat themselves. Today, theofficial numbers of herbal medicines used in the treatment of diseases is growing compared to the total numbers of formal drugs in the world (19).

Women's Health Study in the United States revealed that nearly half of postmenopausal women use herbal therapies actively (20).In Gonabad (town) 77.6 percent (21) of aged patients had used herbal medicines for self-medication. Currently, self-medication causes increased resistance to pathogens in the body, generally jeopardizes health, adverse drug interactions, and prolonged illness (24-23-22).

Studies show that public education in rational drug use, improving the quality of health services and increasing access to community services system are effective in reducing self-medication (25).Due to the increasingly widespread phenomenon of self-medication and one's direct role in the selection and using of drugs (27-26), the researcher tried to study the effective factors on changing the behavior of individuals to access the proper heath behavior in drug consumption in postmenopausal women.

MATERIALS AND METHODS

This research is a descriptive-analytic epidemiological one. To conduct the study initially, a formal letter of introduction of Ahwaz Medical Sciences University, were presented to the selected Ahwaz health centers, following confirming the validity content of a semi organized questionnaire by ten faculty members and then approving the reliability of demographic –self-medication questionnaire with Alpha Cronbach 0.81, a

preliminary research(pilot one) was carried out on 39 postmenopausal women , to determine the reliability and sample size of questionnaire; according to preliminary studies, the relative

$$\frac{15}{39}$$

frequency of self-medication was obtained in postmenopausal women and the prevalence ratio of various self-medication reasons of any items registered in the questionnaires was calculated about 20 percent,therefore,to determine the sample size using the formula of relativity in a community

$$N = \frac{z^2 \frac{\alpha}{2} p^{\wedge}(1-p^{\wedge})}{d^2}$$

and considering d=5% , p^{Δ} = 20% , the raw volume sample of 246 postmenopausal women self medicating, was obtained. To determine the sample size of the study, regardless of the conduct or failure to perform self-medication, ratios obtained in the pilot study were applied and consequently the sample size n = 640(246 × 139.15) was calculated for postmenopausal women .Health centers were selected by a two-stage clustered-random method through 13 eastern and 9 western health centers, respectively, 3 and 4 centers were selected based on random numbers table. Then according to population covered by each center the numbers of proportional samples in each center were selected (sampling with proportional allocation).

Sampling at each center was conducted through a random-systematic method, based on each family's medical file in health centers. Then , the researcher and his assistant,fluent in Arabic attended a physically appropriate place, at health center .After each of research subjects according to inclusion criteria(living in Ahwaz and passing at least a year of menopause) and considering terms and conditions of withdrawal from the research(those who are not residents of Ahwaz), accompanied by a written consent and noting that the questionnaire would be anonymous and confidential, and people are allowed to withdraw at any stage of the interview.

Firstly, the samples were justified in relation to objectives of the researchand after defining any synthetic and herbal drugs, as well as medicinal plants, an interview was conducted and questionnaires were completed by the researcher and his assistant. Each person was interviewed for 20 minutes.

Questions included 12 demographic questions (age, education, occupation, etc) and 25 questions were related to self-medication including how to

consume drug, type of consumed drug, duration and approach of treatment, and causes of drug consumption and etc. Self-medication diagnosis was based on the research unit's answers to the questions, if positive answer was given to question number 14(Have you had drug consumption without a prescription in the past 6 months?), the subjects were placed in the self-medication group and the interview continued and the rest of the questionnaire was completed; otherwise, only the demographic questions were filled.

Data were analyzed by SPSS version 17, and self-medication with qualitative variables were assessed by Chi-square& Fisher tests and based onthe necessity ,the GEE model (Generalized estimation equation) was used, and self-medication with quantitative variable (number of children) were measured through T-test or the Mann-Whitney.

FINDINGS

Results showed that out of 650 postmenopausal women participating in the study, 213 patients (32.8 percent) had previous self-medication experience, of this , 106 cases (49.76) have used synthetic drugs, 20 (9.38%) have used herbal medicines and 87 (40.84 percent) the medicinal plants. The highest self-medication prevalence occurs in ages 45 to 55 and there was no significant relation found between age and self-medication (P=0.1) by statistical Chi-square test. Maximum frequency of self-medication occurred in educational levels lower than high school diploma(69.5 percent), housewives(75.5%) and the Lor race (35.2 percent), respectively. The mean age of menopause in those who self-medicated, was 49.41 ± 2.63 and a significant relation was observed between menopausal age and use of drugs arbitrarily (Table 1). In postmenopausal women who had self-medication experience before, the most common symptoms associated with menopause, belonged to vasomotor disorders(42.2 percent) and by performing the statistical chi-square test a significant relationship was observed between menopausal symptoms and self-medication (P=0.01). Generally, in the logistic regression model, there is a significant relation between the level of education (P=0.01) with self-medication use in postmenopausal women referring to health centers in Ahwaz (Table 2). The most common self-medication cases, included flushing(51.17 percent), nightly insomnias (24.41 percent), vaginal dryness (20.65 percent), mood disorders (16.43%) and menstruation (6.10%), , and based on drug groups, the most cases of synthetic drugs consumption was for treating flushing(46.22%) and vaginal dryness (28.30 percent), in the case of medicinal plants, enhancing libido (65%) and reducing blood fat (35%) and in the case of herbal medicines, using for treat flushing (90.80%) and anti-fever and anti-pain (9.2 percent).

The most common herbal remedies used by menopausal women, have been borage, orange blossom water, Booser , thyme, sesame oil, and Chamomile and the most common herbs used were rosemary cream, Aphroditepill, the Agnoogle drop and Anethum tablets. The most common reasons of self-medicating in synthetic drugs are associated with the previous disease background(62.3 percent) and the effectiveness of the compounds in herbal remedies and medicines (35.2, 58.6%)(Table 3).The average duration of any synthetic drugs, $\pm$

herbal remedies and medicinal plants is 1.4 $\quad$ 1.1, $\pm$ $\qquad$ $\pm\ 0.37$

0.58 $\quad$ 0.33, 5.54 $\qquad$ days,respectively.

Moreover, the highest average consumption duration belongs to synthetic drugs. The most frequent consumption types of the drugs, are edible form for synthetic and edible drugs (65.2, 60%) and boiled form remedies (70.3 percent) for medicinal plants.

Common locations to provide synthetic drugs are pharmacies (64.2%) and drugs keptat home (35.8%) and pharmacies (50 percent), groceries (25%) , friends and family for herbal remedies (25%); groceries (59.7 percent), friends and family (21.8%) and drugs kept at home for herbal remedies(18.3 percent). The most abundant source of information on women's history of previous medication (34.9 percent) for synthetic drugs ,physician (45 percent) forherbal medicines and friends and family (45.9 percent) for herbal remedies. The most frequent recommender to consume synthetic and herbal drugs has been the individual (72.6 and 45 percent), and friends and family for herbal remedies (36.7 percent). 16.3% of postmenopausal women had used alternative medicine techniques such as cupping and massage therapy to overcome their illness. The use of dietary supplements in the daily schedule has been 28.1% of vitamin E, 15 percent of calcium, 9.8 percent of vitamin D and 4.6 percent of the omega-3.93.89% of postmenopausal women were satisfied with use of medication and 83.9% have stated that the drug had improved them. The most frequent self-medication complication belonged to digestivedisorders(58.82%) and 70.5% of postmenopausal women preferred to use herbal products to self-medicate.

DISCUSSION

In this study, 32.8% of menopausal women had taken the drug without a prescription which is consistent with Zarandieh(29) who declared the rate of self-medication in the elderly population 31% , while this amount in the studied elderly population in Gonabad reaches to 77.6 percent (21). The participants of this study have used 49.76% of synthetic drugs, 9.38 percent of herbal remedies and 40.84% of medicinal plants to self-medicate and the most frequency belonged to synthetic drugs.

In Shahrekord (town), 74.4 percent of elderly population had used medicinal plants to self-medicate (29); the most common self-medication cases belonged to the age group of 45 to 55 which gradually declined with increasing age of the subjects. In Afulaby study (2008), the highest prevalence of self-medication was found in women aged 34 to 44 (72.1%) (30), while in his study Asefzadeh showed that in Tehran(2000) self-medication increases as women get older ; in addition, self-medication is higher than other age groups in the group of 60 year-olds and older(31) that is not consistent with our study ; this difference might originate from cultural differences between the two geographic regions. Highest frequency belonged to individuals with less than high school education (69.5 percent). The findings of Studies conducted in Babol (32), Qazvin (33)and Arak (34) showed that the highest prevalence of self-medication is observed among women with high school and university education. As theythink they can get sufficient information from drugs brochures, while the Abbasi et al study (2002) found that self-medication among people with educations level lower than high school diploma ismore frequent. This may be related to lack of financial ability to pay for medical expenses (35). The highest prevalence of self-medication was observed among housewives(75.5%) and there was a significant correlation(>0.0001) between occupational condition and self-medication. The results of research conducted in Kazeroon(36) and Qazvin(20) are consistent with our study, also the research conducted in Tehran(2006) found that the relationship between self-medication and occupational society status is considered significant (P=0.001)(25). While there was no significant relation between occupational status of elderly participants and self-medication in Sharifi's research in Gonabad (2010) (P=0.21) (37).In this study, the most common self-medication cases included flushing, nightly insomnia, vaginal dryness, mood and menstrual disorders.

The study of Karimi et al in Zarandieh showed that the main causes of synthetic drugs consumption in postmenopausal women, were related to anti-hypertensive drugs, analgesics, antibiotics, digestive problems, colds, vitamins and antioxidants and antihistamines that is not consistent with the current research (28), (29).This type of inconsistency goes back to study type so that in Zarandieh research both elderly men and women were studied.

The most frequent place to provide synthetic, herbal drugs and medicinal plants in postmenopausal women has been pharmacy and grocery, respectively. The study conducted in Gonabad (15) and Amako (38) showed that the ease of drug provision without a prescription, ease of access and over administration in the previous turns of disease are among the main reasons ofdrug storage in home whichconsequently has motivated the self-medication. The most abundant source of information for postmenopausal women, concerning the types of drugs consumed includes previous experience of the disease (34.9 percent) for synthetic drugs, physician (45%) for herbal medicines and friends and family (45.9percent) for medicinal plants. The study (inShahrekord) showed that the main source of information for using medicinal plants in self-medication in the elderly population, has been personal information and friends and family (38), which is in line with the research conducted. The most frequent advisers to use synthetic, herbal drugs and medicinal plants were the individual, friends & family. In Tabatabai study (2009) the common advisers for using herbal remedies were found friends and family (87.3%) and the health inspectors were the least recommenders (7.6 percent), (39). The most common causes of medication without a prescription in this research has been previous history of disease, expensive medical costs and effectiveness of herbal compounds (38).

In Zarandieh also the fundamental reason of self-medication in the elderly population has been expressed the high costs of visiting a doctor and uncertainty to them (28), which is consistent with the current study. In Mexico, the lack of trust in doctors and believe in the effectiveness of traditional medicines are the most important factors influencing self-medication of herbal products (38), which is consistent with the present results. While in the study conducted in Tehran (1998) and Mexico City (1987), found out that duplicate prescriptions by doctors and symptomatic treatment of diseases (40-41)were the most common arbitrarily drug consumptions reasons. 70.5% of postmenopausal women who had a previousself-medicationexperience, prefer to use herbal products

to treat diseases and only 12.6% of them believed that drug consumption and herbal medicines required prescription. Investigations showed that with aging, tendencyto use the conventional drugs(synthetic) reduces and the use of herbal medicine increases(3) and also study at Shahrekord showed that 69.8% of elderly population believed that there is no necessity for a physisian's prescription to apply herbal products(29).

Conclusion

Considering the high rate of self-medication, proper strategies to promote public culture level and inclusive education based on the principle of "prevention is prior to treatment", is effective in preventing self-medication.

Conflict of interest: None to declare.

Table 1: Absolute & relative frequency distribution of demographic features of postmenopausal women differentiated by drug consumption method

Demographic Features		Drug Consumption without any prescription 213N=	Drug Consumption based on prescription 437N=	P. Value
		N(%)	N(%)	
Age	40 to 45	2(1.4%)	6(0.9%)	
	45 to 55 years	125(58.7%)	225(51.5%)	
	56 to 65	76(35.7%)	164(37.5%)	
	More than 65	10(4.7%)	42(9.6%)	0.1
Education Level	Below	19(1.4%)	398(91.1%)	<0.0001
	Diploma	46(21.6%)	33(7.6%)	
	Being Educated in University	148(69.5%)	6(1.4%)	
Marriage Status	Never Married	10(4.6%)	10(2.3%)	
	Married	117(54.9%)	325(74.4%)	0.02
	Divorced from wife	42(19.7%)	2(0.5%)	
	Lost Spouse	43(20.1%)	100(22.8%)	
Occupation	House Keeper	160(75.5%)	408(93.8%)	<0.0001
	Employed	53(24.9%)	29(6.6%)	
Race	Lor	75(35.2%)	107(24.5%)	
	Arab	61(27.8%)	160(36.6%)	0.004
	Fars	40(18.18%)	63(14.4%)	
	Other	37(17.14%)	107(24.5%)	
Age of menopause (Standard Deviation± Average)		2.63±49.41	3.45±48.88	0.05

Table 2: Logistic regression model with signified variables with the simple logistic regression in postmenopausal women

Significant variables	PValue	OR
Education Level	*0.01*	***11.08***
Occupation	*0.5*	***0.6***
Marriage Status	*0.14*	***1.5***
Race	*0.19*	*2.6*
Pregnancy Number	*0.01*	*2.04*
Postmenopausal Age	*0.62*	*0.9*
Postmenopausal Symptoms	*0.15*	*0.9*

Table 3:The frequency distribution of the drug in postmenopausal women according to the type of medication without a prescription

Self-Medication Reasons	Synthetic Drugs N(%)	Herbal Remedies N(%)	Medicinal Plants N(%)
Convenient Access	5(4.7%)	0(0%)	0(0%)
Mild Disease	9(8.5%)	3(4.2%)	17(19.5%)
Pre-experience of the disease	66(62.3%)	12(16.9%)	0(0%)
Not taking serious the disease	7(6.6%)	5(7%)	6(5.7%)
Costly medical expenses	41(38.7%)	31(34.7%)	29(33.33%)
Existence of drug in the home	2(1.9%)	3(4.2%)	5(5.7%)
Proper result from self-medication	9(8.5%)	6(8.5%)	12(14.2%)
Lack of belief to physicians skill	10(11.3%)	16(22.5%)	24(27.6%)
Harmless of herbs and medicinal plants	0(0%)	9(12.7%)	18(20.6)
Effectiveness of herbs and medicinal plants	0(1%)	25(35.2%)	51(58.6%)
Being informed about drugs	30(24.5%)	13(18.3%)	0(0%)

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