Original Article *J Res Health Sci, Vol 7, No 1, pp. 24-31, 2007*

Pattern of Complementary and Alternative Medicine Use in Urban Population

*Yekta Z. PhD, **Zamani AR. PhD, **Mehdizade M. PhD, **Farajzadegan Z. PhD

*Dept. of Community Medicine, Faculty of Medicine, Urmia University of Medical Sciences, Iran
**Dept. of Community Medicine, Faculty of Medicine, Isfahan University of Medical Sciences, Iran

(Received 2 Mar 2007; accepted 14 Apr 2007)

Abstract

Background: To determine the prevalence and patterns of Complementary and Alternative Medicine (CAM) use in urban population in Isfahan.

Methods: In a cross–sectional study through two-stage sampling methods, 870 individuals were selected from Isfahan Province, center of Iran. We selected 20 clusters randomly and chose one household from each cluster by chance then 24 households were included consequently. Subsequently a resident of each household aged 18 years or older was selected randomly. We assessed the rate of use, types of alternative medicine, and conditional disease during recent two years.

Results: The overall use of at least one method of complementary and alternative medicine was 62.5%. The most common problems were as follows: digestive problem, obesity and hyperlipidemia, as well as anxiety and depression. Herbal medicine and bless therapy were the most common methods that people chose.

Conclusion: Regarding to high prevalence of complementary and alternative medicine use, more attention to complementary and alternative medicine is mandate for physicians and health system managers. Health authorities' supervision and training of traditional practitioner is important not only for its economic impact and postponement of seeking treatment, but also for its untoward side-effects either alone or in combination with orthodox medicines.

Keywords: *Alternative therapies, Complementary medicine, Herbal medicine*

Introduction

Complementary and Alternative Medicine (CAM) can be defined as diagnosis, treatment, and/or prevention which complements mainstream by contributing to a common whole and satisfying a demand not met by orthodoxy or by diversifying the conceptual frame works of medicine (1). CAM can also be defined as interventions neither taught widely in medical schools nor generally available in the hospitals (2). There is a growing interest in the use of CAM therapies for a wide array of common health concerns (3).

There has been a substantial increase in the popularity of CAM, although different studies have reported a variety of usage rates (4-7). Surveys suggest that between 30% and 90% of the adult population in industrialized nations use some form of CAM to prevent or treat a variety of health problems (6-9). In developing countries more than 70% of populations still depend on the complementary and alternative systems of medicine (9). CAM has been utilized by people in Pakistan who have faith in spiritual healers, clergymen, homeopath or even many quacks (9). In Iran, 35% of people believe in traditional medi-

*Corresponding author: Dr. Z Yekta Tel: +98 441 278 0801 Fax: +98 441 2780801 E-mail: yekta42@yahoo.com

cine use (10). Another study in Iran indicates that, 84.9% of general physicians believe the use of alternative therapies is mounting (11).
Many theories proposed to explain the use of alternative medicine were tested such as dissatisfaction, need for personal control, philosophical congruence, belief in the inefficacy of conventional medicine and health factors (4). The most common reason for CAM use is dissatisfaction due to inability of conventional medicine in adequate treatment of chronic illnesses (12).
The popularity of particular types of CAM varies geographically, some studies mentioned non-prescribed supplement, relaxation, physical activity and prayer as CAM therapies (1, 3, 13), but generally includes herbal medicine, homeopathy, massage, chiropractic and acupuncture (6).
Several studies, but not all of them, confirm that being high educated, female gender, middle age, poorer health status, and a holistic philosophical orientation to health and life (belief in the importance of the effects of mind, body, and spirit on the health) were all predictive of CAM use (6,14). Health care utilization depends on health-seeking behavior which in turn is a product of various factors: physical, socio-economic, cultural and political (15, 16). Iran has a very rich tradition in the use of medical plants for the treatment of various ailments. In Iran, we do not have clear estimation of CAM usage, but it seems to be increased like other countries. Two studies in different parts of Iran showed that the population trend toward alternative medicine (10, 11). Prevalence of CAM use is important not only for its economic impact and postponement of seeking treatment, but also for its untoward side-effects either alone or in combination with orthodox medicines. The aim of this study was to determine the prevalence and patterns of CAM use in urban population of Isfahan, north-south and east-west Iran. Clarifying the role of CAM in health care system can be beneficial to health managers for controlling and directing these services.

Materials and Methods

In this cross-sectional study, CAM was defined as medical interventions and therapies not taught widely in medical schools or generally available in hospitals. This definition has the advantage of being simple and easily understood by ordinary folk (17). First of all, we developed a semi-structured question/ answer form based on the relevant literature (18, 19) and our experience. Some popular types of CAM therapies, possible reasons for the use of these therapies, the reason for preferring them to the conventional medicine, medical conditions that led to use CAM and, and seeing a medical doctor at the same time were listed . Then we conducted face to face interview with 30 household members. Based on this pilot survey, the most applicable CAM therapies and reasons were selected to be included in a final draft. The most common types of CAM that mentioned in the questionnaire were acupuncture, herbal medicine, energy healing, hypnotherapy, yoga and bless therapy.
The history of herbal medicine has a deep root in Iran. Most of the time people consult with a person (Local name: Attar) who works in traditional herbal drug stores and does not observe healthy roles (20).
Bless therapy is a kind of traditional medicine in this area, that is, a religious person writes holly phrases in a piece of paper and orders patients to keep it with themselves or wash paper in a bowl of water then drink holly water in order to cure their disease. Questions also included socio-demographic characteristics. The main survey was carried out in 2002 by two interviewers who worked in health care centers. The population of Isfahan City was 1,703,061 living in 425766 households, and the size of each cluster was 1920 people.

Isfahan was divided into 84 clusters according to the plan of health deputy. In the pilot study, we found that 50% of respondents had used a type of CAM therapy, so the maximum sample size with 0.15 attrition rate and 1.2 cluster effects was 870. We selected 20 clusters randomly and chose one household from each cluster by chance then 24 households were included consequently. Subsequently a resident of each household aged 18 yr or older was selected randomly. If a responder refuse to participate or was absent after visiting household several times, another responder was replaced. We asked respondents about their use of alternative therapies during the prior 24 mo.

Chi square test was used for comparing variables and the significant level was 0.05.

Results

Five hundred forty seven out of 870 responders (62.5%) used alternative therapy at least one time during past 24 mo. The response rates differed by age group and sex. To reduce the effect of possible response bias on the estimates of use, responses were weighted according to the age, sex, and education level, provided by health authority (DSH). Sociodemographic characteristic are shown in Table1. Forty percent of CAM users were completely satisfied, 55% relatively and 4.9% poorly satisfied. CAM use was lesser among those who had collage education ($P< 0.05$) .Use of alternative medicine was more common among women than men (72% vs 28%), but weighted data did not show any differences by gender.

Most of the responders who used CAM were under 49 yr of age ($P< 0.05$).

Only 13.5% of CAM usage was based on doctors' recommendation or awareness. Recommendation rates for using CAM by doctors were varied by the type of CAM, ranging from 79.7% for herbal medicine, to 1% for hypnotherapy. There was no recommendation for homeopathy and bless therapy. Ninety two percent of patient visited a medical doctor and also sought the services of alternative practitioner or self-using remedy (purchased herbal drug without consulting) at the same time. The most frequently cited health problems treated with CAM therapies were gastrointestinal problems, hyperlipidemia, obesity, anxiety and psychological depression.

Table 2 summarizes the results regarding the use of alternative therapies for the most commonly reported major medical conditions. Among the reasons listed by respondents for using alternative medicine, relatives' recommendations were the most common reason (57.4%). Other reasons were lack of response to conventional treatment, belief in efficacy of alternative medicine and fewer adverse effects of alternative medicine.

Among popular methods that were used in this region included acupuncture, homeopathy, herbal medicine, bless therapy, yoga, energy healing and hypnotherapy. The rates of using herbal medicine and bless therapy were considerably higher ($P< 0.05$). The lowest rates were for homeopathy and hypnotherapy (Fig. 1). Herbal medicine was the most common method, and most herbal remedies were used without the supervision of an alternative practitioner.

Table 1: Effects of weighting data by population age/sex/education structure

	Responders		**Population**	**Weighted data**
	n	**%**	**%**	
Sex				
Male	154			
Female	393			
Age group				
15-49	437	18	82	448
50-65	12	2	12	65
65<+			8	48
Education				
Illiterate	119	21.8	18	98
Primary school	167	30.6	32	175
Guiden & high school	206	37.6	42	233
University	55	10.1	8	44

Table 2: Use of Alternative therapies for the most frequently reported principle medical conditions

Condition	Frequency	Percent
Digestive	114	20.8
Hyperlipidema and obesity	123	22.5
Depression & anxiety (psychological problems)	98	17.9
Headaches	38	6.9
Back pain	40	7.3
Allergies	35	6.4
Arthritis	51	9.3
Hypertension & diabetes	13	2.4
Others	35	6.5

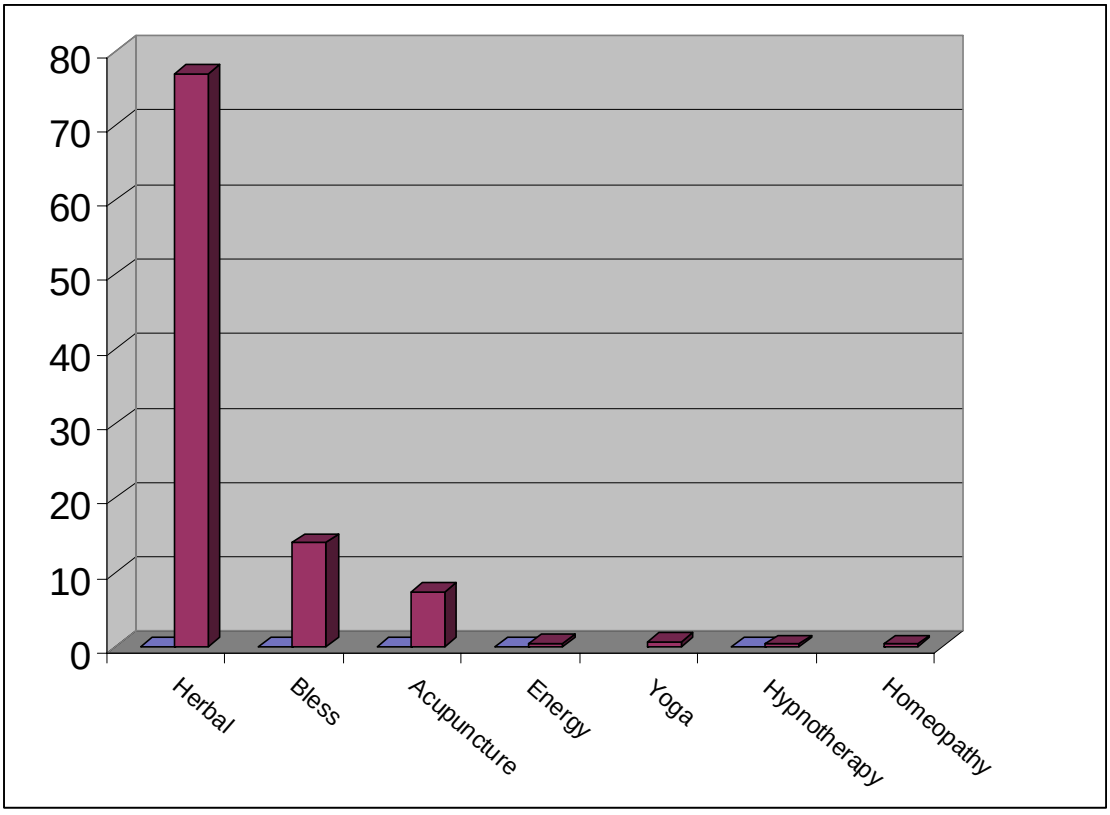

Fig. 1: Percentage of use the type of Alternative therapies among respondents

Discussion

CAM is a very broad term encompassing what has variously been described as indigenous, natural, traditional, oriental, holistic, unconventional, and essentially what is not allopathic, mainstream, orthodox or western (17). It is expected that the modalities of CAM vary from culture to culture and country to country. In the absence of a standardized definition of CAM, problems might arise when making international comparisons. We adopted Eisenberg's definition, since apart

from its ease of comprehension and advantage of simplicity (17).

According to one estimate, more than 80% of the developing world populations still depend on the CAM while only about half of the population in industrialized countries uses CAM (21). Information about the rate of CAM use in Iran is limited. Two studies in different parts of Iran showed an increasing rate of CAM use (11, 10). Our study indicates that the prevalence of CAM use in Isfahan (62.5%) is the same as other countries (1, 6, 17).

Cultural beliefs and practices often lead to self-care or home remedies and consultation with traditional or CAM healers (22). These factors at times result in a delay in treatment seeking especially for children illnesses (23, 24) and, sometimes affect awareness and recognition of the severity of illness as well as acceptability of the service (25).

Sociodemographic characteristics of CAM users are different in each country (26, 27). Several studies have characterized CAM users more likely to be female, affluent, single, middle-aged, well educated and white (3, 6, 15, 17, 19, 28). Another study showed that older patients are attracted to use CAM (29). Rolnik et al. stated that no sociodemographic predictors of CAM users were found (30). However Astin found that among demographic variables only educational level predicted use of CAM (6). In our study, although we had the effect of response biases, after weighting data we found that more CAM users were under 49 yr of age and low- educated and no differences were detected between male and female.

These data vary considerably across some surveys, most likely because of regional differences, suggesting the need for more rigorous surveys using national scale. It should be pointed out that most of the surveys were conducted in industrialized countries; hence the relative strengths of the influence of demographic factors may differ. The typical user of CAM in developing countries would almost certainly have different characteristics.

Dissatisfaction with conventional medicine is sometimes cited in the literature as important reason for turning to CAM (2, 6, 28-31). Many findings support the competing explanation that patients may be attracted to alternative medicine because they find many of these therapies more congruent with their values, beliefs and philosophical orientation toward health and life (32-34).

Our study demonstrated that relatives' recommendation and lack of response with the conventional therapies were the most common reasons for using alternative medicine.

Despite the dramatic increases in the alternative medicine care, the extent to which patients disclose their use of alternative therapies to their physicians, remains low (2).

35%-72% of CAM users do not inform their physician about its use (3, 26), and the lack of physician inquiry is the most common reason for physician unawareness which can modify the effect of medical treatments (2, 3, 30). In another study in Iran, physicians had positive attitudes toward usefulness of CAM methods, but they mentioned that there was a need to improve physicians' knowledge about CAM (11).

In our study, only 13% of respondents had discussed their use of each therapy with a medical doctor. Patient- physician communication seems to be inadequate in this field and a professional strategy for responsible dialogue need to be developed.

Regional differences in familiarity and availability of CAM are the most likely cause of the variation in data for particular types of CAM (6).

Himmel and colleagues found that herbal medicine, chiropractic, homeopathy and acupuncture are more popular CAM (6). In another study prayer was the most common CAM (3). Eisenberg et al. reported that the four most popular forms of CAM in the United State were relaxation therapy, herbal

medicine, massage, and chiropractic. Maclennan mentioned that among Australians the most popular forms of CAM were non-prescribed vitamins, chiropractic, herbal medicines, and mineral supplementation (17). A large proportion of CAM users in Iran used herbal and bless therapy, because herbal medicine and bless therapy have a deep root in Iranian culture, and since many CAM methods are not available or popular in Iran. Physicians in Iran believe that herbal medicine and acupuncture are the most common methods being used (11). In Kordestan, 12% of responders believe in bless therapy and 23% believe that the use of traditional chiropractic is more effective than conventional medicine in bone fracture healing (10).

In the present study, herbal medicine and bless therapy were very common, and respondents had strongly belief in positive effect of CAM methods especially bless therapy and herbal remedies. To promote physicians and practitioners awareness about the appropriate use of these therapies seems to be necessary.

The most frequently cited problems in the present study were digestive problems and hyperlipidemia. But like other studies patients prefer CAM over conventional medicine only for those conditions that they think are not life threatening (such as digestive disorders) (4, 6, 17).

In summery, high rates of CAM use are well documented in our study and most of patients use CAM without informing their physician or being under the supervision of a trained CAM practitioner. On the other hand, Azin et al. stated that general physician had not more information about CAM (11).

Our study reveals the high prevalence of CAM and its pattern of use in Isfahan. The popularity of CAM is a reality around the world that should not be ignored. It prompts a re-visitation of the western-dominated health care systems (35) a goal set 27 yr ago by the 30^{th} world health assembly in 1977 (36, 37) but remains elusive (17).

In this area, providers and patients need to know about the risk of combining conventional and unconventional therapies.

Acknowledgements

This work was supported by Isfahan University of Medical Sciences and Deputy for Health in Isfahan. The authors declare that they have no competing interest

References

1. Yamashita H, Tsukayama H, Sugishita C. Popularity of complementary and alternative medicine in Japan: a telephone survey. *Complement Ther Med*. 2002; **10(2):** 84-93.
2. Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van RM, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. *JAMA.* 1998; **280(18):**1569-75.
3. Barraco D, Valencia G, Riba AL, Nareddy S, Draus CB, Schwartz SM. Complementary and alternative medicines (CAM) use patterns and disclosure to physicians in acute coronary syndromes patients. *Complement Ther Med*. 2005; **13(1):** 34-40.
4. Astin JA. Why patients use alternative medicine: results of a national study. *JAMA.* 1998; **279(19):**1548-53.
5. Veeramah EK, Holmes S. Complementary therapy: complement or threat to modern medicine? *J R Soc Health.* 2000; **120(1):** 42-6.
6. Astin JA, Marie A, Pelletier KR, Hansen E, Haskell WL. A review of the incurporation of complementary and alternative medicine by mainstream physicians. *Arch Intern Med*. 1998; **158(21)**: 2303-10.

7. Ernst E. The rise and fall of complementary medicine. *J R Soc Med.* 1998; **91(5):** 235-6.
8. Walker LG, Anderson J. Testing complementary and alternative therapies within a research protocol. *Eur J Cancer*. 1999; **35(11):**1614-8.
9. Shaikh BT, Hatcher J. Complementary and Alternative Medicine in Pakistan: Prospects and Limitations. *Evid Based Complement Alternat Med*. 2005; **2(2):** 139-42.
10. Reshadmanesh N. Survey of hygiene civility of burgess people in Kurdistan *Scientific Journal of Kurdistan University of Medical Sciences*. 1999; **14(4)**: 22-16.
11. Azin SA, Nouraii SM, Moshkani ZS. Complementary/alternative medicine: Knowledge, attitudes and practice among general practitioners in Tehran, Iran. *Payesh, Journal of the Iranian Institute for Health Sciences Research*. 2003; **3(2):**173-65.
12. Furnham A, Bhagrath R. A comparison of health beliefs and behaviours of clients of orthodox and complementary medicine. *Br J Clin Psychol*. 1993; **32(2):** 237-46.
13. Thomas KJ, Nicholl JP, Coleman P. Use and expenditure on complementary medicine in England: a population based survey. *Complement Ther Med*. 2001; **9(1):**2-11.
14. Hyland ME, Lewith GT, Westoby C. Developing a measure of attitudes: the holistic complementary and alternative medicine questionnaire. *Complement Ther Med.* 2003; **11(1):**33-8.
15. Kroeger A. Anthropological and socio-medical health care research in developing countries. *Soc Sci Med.* 1983; **17(3):** 147-61.
16. Fatmi Z, Avan BI. Demographic, socio-economic and environmental determinants of utilization of antenatal care in a rural setting of Sindh, Pakistan. *J Pak Med Assoc.* 2002; **52(4):**138-42.
17. Lim MK, Sadarangani P, Chan HL, Heng JY. Complementary and alternative medicine use in multiracial Singapore. *Complement Ther Med.* 2005; **13(1):** 16-24.
18. MacLennan AH, Wilson DH, Taylor AW. Prevalence and cost of alternative medicine in Australia. *Lancet.* 1996; **347(9001)**: 569-73.
19. Ernst E, White A. The BBC survey of complementary medicine use in the UK. *Complement Ther Med.* 2000; **8(1):**32-6.
20. Nigar Efendiyeva. Medicine in Azerbaijan. A brief historical overview. Winter 1995 (3.4). Available from: www.azer.com/aiweb/categories/magazine/34_folder/34_articles/34_medical history.html
21. Chez RA, Jonas WB. The challenge of complementary and alternative medicine. *Am J Obstet Gynecol.* 1997; **177(5):** 1156-61.
22. Nyamongo IK. Health care switching behaviour of malaria patients in a Kenyan rural community. *Soc Sci Med.* 2002; **54(3):**377-86.
23. Yamasaki-Nakagawa M, Ozasa K, Yamada N, Osuga K, Shimouchi A, Ishikawa N, et al. Gender difference in delays to diagnosis and health care seeking behaviour in a rural area of Nepal. *Int J Tuberc Lung Dis.* 2001; **5(1):**24-31.
24. McNee A, Khan N, Dawson S, Gunsalam J, Tallo VL, Manderson L, et al. Responding to cough: Boholano illness classification and resort to care in response to childhood ARI. *Soc Sci Med.* 1995; **40(9):**1279-89.
25. Hasan IJ, Khanum A. Health care utilization during terminal child illness in squatter settlements of Karachi. *J Pak Med Assoc.* 2000; **50(12)**:405-9.

26. Geissler PW, Nokes K, Prince RJ, Odhiambo RA, agaard-Hansen J, Ouma JH. Children and medicines: self-treatment of common illnesses among Luo schoolchildren in western Kenya. *Soc Sci Med.* 2000; **50(12):**1771-83.
27. Van der SP, Sorensen SC, Delgado E, Bocaletti E. Health seeking behaviour for child illness in rural Guatemala. *Trop Med Int Health.* 1996; **1(2):**161-70.
28. Ernst E. Prevalence of use of complementary/alternative medicine: a systematic review. *Bull World Health Organ.* 2000; **78(2):**252-7.
29. Flaherty JH, Takahashi R. The use of complementary and alternative medical therapies among older persons around the world. *Clin Geriatr Med.* 2004; **20(2):**179-200.
30. Rolniak S, Browning L, Macleod BA, Cockley P. Complementary and alternative medicine use among urban ED patients: prevalence and patterns. *J Emerg Nurs.* 2004; **30(4):**318-24.
31. Al-Windi A. Determinants of complementary alternative medicine (CAM) use. *Complement Ther Med*. 2004; **12(2-3):** 99-111.
32. Kim J, Chan MM. Factors influencing preferences for alternative medicine by Korean Americans. *Am J Chin Med.* 2004; **32(2):**321-9.
33. Astin JA, Shapiro SL, Lee RA, Shapiro DH, Jr. The construct of control in mind-body medicine: implications for health-care. *Altern Ther Health Med*. 1999; **5(2):** 42-7.
34. Siahpush M. Why do people favour alternative medicine? *Aust N Z J Public Health*. 1999; **23(3):**266-71.
35. Rees L, Weil A. Integrated medicine. *BMJ*. 2001; **322(7279):**119-20.
36. World Health Organization Western Pacific Region. A report of the consultation meting on traditional and modern medicine; harmonizing the two approaches. Beijing, China, 22-26 November 1999.
37. World Health Organization. WHO traditional medicine strategy 2002-2005. Geneva: *World Health Organization*; 2002.