ORIGINAL ARTICLE

USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE AMONG ASTHMATIC PATIENTS

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Background: The prevalence of complementary and alternative medicine (CAM) use in some developed countries is on the rise as surveys conducted on large scale vouch for. This study was conducted with the aim to determine the frequency of complementary and alternative medicine (CAM) use among asthmatic patients at outpatient department of tertiary care hospitals in Peshawar, Khyber Pakhtunkhwa, Pakistan. **Methods:** This cross-sectional study was conducted in outpatient department of two tertiary care hospitals. A face to face interview of 423 patients was conducted through a questionnaire. Non-probability consecutive sampling method was used to select the respondents. Stata version 12.1 (StataCorp), College Station, Texas) was used to carry out the statistical analysis. **Results:** Overall asthmatic patients in the study were 423, in which 232 (54.85%) patients reported as using CAM. There were 177 (41.84%) males and 246 (58.16%) females. The CAM use was significantly more in older age patients, suffering from asthma for more than 5 years, severe persistent type of asthma, married, unemployed, rural and current smokers. **Conclusion:** The use of CAM reflects a high CAM use among asthmatic patients in Pakistan. Clinicians should be aware about their patient's use of CAM.

Keywords: Complementary and alternative medicine; Asthma, patients; Pakistan

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INTRODUCTION

The prevalence of complementary and alternative medicine (CAM) use in some developed countries is in the range between 30 and 90%. Surveys conducted on large scale signify a rising fame of using CAM in North America, Australia and Europe in current decades.[1,2] The national centre for Complementary and Alternative Medicine (NCCAM), in a study (2004) reported that 36% of adults in the US used CAM[3,4] while in 2008; this figure has been reported as 56%[5]. One study suggests that, 80% of the inhabitants of developing countries rely on the CAM therapies, and in developed world's estimates suggest that half of the inhabitants are using CAM.[6] CAM prevalence in some developing countries of Asia continent was about 70%.[7,8] A study conducted in Malaysia estimates the prevalence of CAM use of about 56%.[9] In India, a research study estimate the CAM prevalence was 69%.[10]

Asthma is defined as a chronic respiratory tract illness which affects the quality of life of asthmatic patients.[11] Asthmatic patients are using CAM extensively because they are seeking a cure for the disease, as well as alternative ways of treatment that are natural, without long-term adverse actions.[1,2] A study estimated the using of CAM in asthmatic patients is 27.2% in Singapore, while in Saudi Arabia it is 30%.[6] A study conducted in 2004 in Malaysia estimated CAM use 41% in patients with asthma.[12]

Complementary and alternative medicine prevalence among adult asthmatic patients ranges from 4–79%.[13] There is little research in Asian asthmatic patients about the prevalence of CAM use.[14] The WHO classifies 65–80% of the world's health services as alternative medicine.[15] According to a population based survey in 2009 across Pakistan, CAM use was reported as 51.7%.[16]

Globally there is a huge variation in prevalence of CAM use. There is need to estimate the prevalence of CAM use among asthmatic patients in Pakistan. This study may provide the precise determination of prevalence of CAM use in asthmatic patients.

The aim of present study is to determine the prevalence of and factors associated with CAM use among asthmatic patients at outpatient department of 2 tertiary care hospitals (Khyber Teaching Hospital, Lady Reading Hospital) Peshawar, Pakistan.

MATERIAL AND METHODS

A cross-sectional study was conducted at outpatient department (OPD) of 2 tertiary care hospitals (Khyber Teaching Hospital, Lady Reading Hospital) Peshawar, Khyber Pakhtunkhwa.

After approval from Advanced Studies and Research Board of Khyber Medical University Peshawar, consecutive sampling method was used to collect a sample of 423. The sample size was calculated by assuming a proportion of 51.75%.[16] patients using CAM with 95% confidence level and 5% absolute precision. A 10% additional sample was taken to make it 423. The WHO software for sample size determination in health studies was used. Asthmatic patients who fulfilled the inclusion criteria of study were recruited from the OPD. Local population of Age 18 years or more, suffering from asthma for more than a

year was included in the study. The study was conducted after the approval by the Khyber Medical University Ethical Board (KMU-EB). Informed Consent was taken from the participants on a consent form written in local language and after explaining to them elements of informed consent, their autonomy, confidentiality and the purpose of study.

For the purpose of data collection, a structured questionnaire was used as data collection instrument. The questionnaire consisted of questions on demographic information such as age, gender, education, monthly income, occupation, marital status and smoking; information on duration of diagnosis as asthmatic, type of asthma, whether using CAM or not. In case of use of CAM further questions were asked about CAM use like purpose of CAM use, its frequency of use, its duration, type of asthma, satisfaction from CAM use, whether he/she has informed his/her doctor about CAM use or not, from where he/she got information about CAM use and use of conventional medicine. Stata version 12.1 (StataCorp, College Station, Texas) was used to carry out the statistical analysis. Percentages, frequencies and proportions were calculated for categorical data. Mean and standard deviation were calculated for continuous data. Chi square test was used to assess the association of CAM use with independent categorical variables. Results are offered as OR and 95% CI. Statistical significance was defined as $p \leq 0.05$.

RESULTS

A total of 232 (54.85%) asthmatic patients reported as using CAM. Overall asthmatic patients in the study were 423, males were 177 (41.84%) and females were 246 (58.16%). Demographic variables are given in table-1. After adjusting for potential confounders, on multivariate analysis those asthmatic patients who were with duration of asthma greater than 5 years (OR 7.92, 95% CI 4.19–14.96), moderate and severe persistent type of asthma (OR 2.29, 95% CI 1.03–5.08, and OR 2.82, 95% CI 1.17–6.77,) marital status OR 0.10 (0.04, 0.29), education OR 0.13 (0.04, 0.43), rural residence OR 0.39 (0.18, 0.83) and smokers (OR 8.03, 95% CI 2.28–28.35) were significantly more likely to be using CAM. (Table-2)

Table-.1 Characteristics of the asthmatic participants by CAM use.

	No CAM use	CAM use
	n=191 (45.15%)	n=232 (54.85%)
	n (%)	n (%)
Gender		
Men	74 (38.74)	103 (44.40)
Women	117 (61.26)	129 (55.60)
Age (years)		
18–30	53 (27.75)	43 (18.53)
31–44	45 (23.56)	68 (29.31)
45–59	58 (30.37)	51 (21.98)
≥60	35 (18.32)	70 (30.17)
Duration of asthma		
1-4 (years)	127 (66.49)	72 (31.03)
≥5 (years)	64 (33.51)	160 (68.97)
Type of asthma		
Intermittent	54 (28.27)	53 (22.84)
Persistent	137 (71.73)	179 (77.16)
If persistent asthma		
Mild	40 (29.20)	30 (16.67)
Moderate	72 (52.55)	97 (53.89)
Severe	25 (18.25)	53 (29.44)
Marital status		
Unmarried	25 (13.09)	62 (26.72)
Married	166 (86.91)	170 (73.28)
Education		
Uneducated	160 (83.77)	193 (83.19)
Educated (≥5 years)	31 (16.23)	39 (16.81)
Monthly income		
PKR ≤8600	28 (14.66)	25 (10.78)
PKR 8601–10400	163 (85.34)	207 (89.22)
Occupation/work status		
Unemployed	122 (63.87)	156 (67.24)
Employed	33 (17.28)	56 (24.14)
Labour (Unskilled)	36 (18.85)	20 (8.62)
Residence		
Urban	124 (64.92)	144 (62.07)
Rural	67 (35.08)	88 (37.93)
Smoking status		
Never smoker	166 (86.91)	174 (75.00)
Ex-smoker	14 (7.33)	20 (8.62)
Current smoker	11 (5.76)	38 (16.38)

Table-2: Logistic regression analysis of asthmatic participants associated with CAM use

	Univariate		Multivariate	
	OR (95%CI)	*p*-value	OR95%CI	*p*-value
Age (years)				
18–30	1	–	1	–
31–44	1.86 (1.07, 3.23)	0.027	0.78 (0.30, 2.06)	0.620
45–59	1.08 (0.62, 1.88)	0.775	1.07 (0.42, 2.71)	0.881
≥60	2.46 (1.39, 4.36)	0.002	0.87 (0.33, 2.28)	0.780
Duration of asthma				
1–4 (years)	1	–	1	–
≥5 (years)	4.41 (2.93, 6.64)	<0.001	7.92 (4.19, 14.96)	<0.001
If persistent				
Mild	1	–	1	–
Moderate	1.80 (1.02, 3.15)	0.041	2.29 (1.03, 5.08)	0.041
Severe	2.83 (1.44, 5.53)	0.002	2.82 (1.17, 6.77)	0.021
Marital status				
Unmarried	1	–	1	–
Married	0.41 (0.25, 0.69)	0.001	0.10 (0.04, 0.29)	<0.001
Education				
Uneducated	1	–	1	–
Educated (≥5 years)	1.04 (0.62, 1.75)	0.873	0.13 (0.04, 0.43)	0.001
Occupation/work status				
Unemployed	1	–	1	–
Employed (Skilled)	1.33 (0.81, 2.17)	0.259	1.46 (0.50, 4.26)	0.486
Labour (Unskilled)	0.43 (0.24, 0.79)	0.006	0.26 (0.80, 0.82)	0.022
Residence				
Urban	1	–	1	–
Rural	1.13 (0.76, 1.68)	0.545	0.39 (0.18, 0.83)	0.014
Smoking status				
Never smoker	1	–	1	–
Ex-smoker	1.36 (0.67, 2.79)	0.396	1.59 (0.47, 5.34)	0.452
Current smoker	3.29 (1.63, 6.66)	0.001	8.03 (2.28, 28.35)	0.001

DISCUSSION

In this study the frequency of CAM use in asthmatic patients was 54.85%. Those asthmatic patients who were using CAM had characteristics of: having more than 5 years' duration of asthma, severe persistent type of asthma, unmarried, unemployed, rural and current smokers.

Our study has much higher prevalence as compared with developed countries. In a study in 1993 in the US reported that 110/482 adult patients with clinically diagnosed asthma, CAM prevalence was 14%. Another study in 1999 in Northern California, "which was population-based 42% of adults with self-reported physician diagnosis of asthma, used alternative therapies in the past year, 16% were using in combination with prescribed medications, while 26% used CAM alone, this data which is from clinic or hospital-based samples of asthmatic patients will not include such asthmatic patients who self-treated with CAM alone".[17] In the study conducted by "European Community Respiratory Health Survey in 1990–1992 in UK 3% used any alternative therapy of 373 patients with self-reported physician diagnosis of asthma".[18] A study conducted in 2003, reported that 6% were then using complementary and alternative therapies.[19] This discrepancy in prevalence may be due to the educational differences between the two study populations.

Our study conforms to the findings of a study conducted in Pakistani settings which indicated that 52% of the inhabitants studied in major urban and rural areas were using CAM.[20] This study was conducted in 2009, and shows that not much difference has come with calendar time. Another factor for conformity may be that CAM use was already high. Another study estimated that 37% of adult patients of asthma using any type of CAMs in the past year. It also reported that patients with uncontrolled asthma had a higher possibility of reporting any use of CAMs, in comparison with patients with controlled asthma; after potential confounders had been adjusted.[21] Our findings in the results on the association between CAM use and socio-demographics ("e.g. age, education, household income and ethnicity") are steady with the published data.[19,22]

Our study showed not much difference with gender. Many previous researches documented a larger prospect of using CAMs among asthmatic women[23,24] but research done recently in the US did not find any significant association.[5] Limited sample size, differences in data collection procedures and types of CAMs may

explain such discrepancies being reported in these studies.

Only asthma patients receiving care in government out-patient clinics are being studied in the present study. It is not a population-based study, also not including the prevalence of alternative therapy used alone (without Western prescribed medicines) by asthma patients in the community which may underestimate the actual association.

These government run hospitals serve population who are having low socioeconomic status and also with little education. So, it does not estimate the CAM prevalence and use pattern in a segment of asthma patients having high socioeconomic status who seek care from private family physicians, especially having different level of dissatisfaction with care.

CONCLUSION

There is a growing body of evidence of CAM use among asthmatic patients. More than half of the asthmatic patient presenting in outpatient department were using CAM. It reflects the popularity of CAM use among asthmatic patients in Pakistan. Several sociodemographic factors as well as severity and type of asthma play an important role in CAM use among asthmatic patients. Clinicians should be aware about their patient's use of CAM and improve the quality of care providing to treat asthma.

Recommendations: Physicians need to be conscious of patients who are using CAM because benefits may be uncertain, having potential side effects and possible drug-drug interactions and understand the reasons of using CAMs. Physicians should be aware of asthma patient using CAM because of the prospect that care may be missing, the patient is unhappy with the outcomes of his cure, or is experiencing harms with self-care and thus looking for help outside the conventional systems of care. In the primary care of asthma patients, therefore, the use of CAM is a clinical marker to identify patients in need of improved asthma care.

The reality of CAM use and self-treatment needs to be acknowledged and will be understood thoroughly through research in assortment to ultimately get quality care.

More studies should be conducted for the evaluation of financial impact of CAM using, to evaluate possible factors influencing CAM using like "individuals' value systems and beliefs, accessibility to care, health literacy and quality of life, and to thoroughly study the causal interactions between CAM use, asthma control and use of controller medications".

AUTHORS' CONTRIBUTION

All authors contributed equally.

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