



Received on 01 October, 2017; received in revised form, 06 March, 2018; accepted, 13 May, 2018; published 01 July, 2018

KNOWLEDGE AND ATTITUDE OF PRIMARY CARE PHYSICIANS TOWARD USE OF HERBS AS MEDICINE IN AL-WAZARAT HEALTH CENTER, PRINCE SULTAN MILITARY MEDICAL CITY, RIYADH, SAUDI ARABIA

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Keywords:

Primary care physicians,
Herbal medicines, Knowledge,
Attitude, Practice, Chronic diseases

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ABSTRACT: Introduction: Herbs are the second most commonly used form of complementary and alternative medicine by public. The uses of medicinal herbs continue to increase worldwide. However, clinicians generally have limited knowledge and confidence about using of herbs in medicine. Therefore, this research aimed to assess the level of knowledge and attitude of primary care physicians toward use of medicinal herbs in order to protect the patients from the harmful effects of herbal medicines by increasing the physicians' awareness regarding it. **Method:** A cross sectional study, includes 102 primary care physicians at Al-Wazarat health center in Riyadh. **Results:** 82.4% of the physicians believed that herbs are beneficial for disease management and only 42.2% of them believed that herbs should be used only when conventional medicine fails. 16.7% of the participants suggested that further education about herbs in medicine should be provided to physicians. However, the practice of herbal medicine was low and the level of knowledge was also low as all physicians scored less than 6 correct answers out of 11. **Conclusion:** The study results emphasizes on the importance of initiating an educational program regarding herbal medicines to improve the physicians knowledge toward herbal medicines and eventually improve patients care.

INTRODUCTION: Complementary and alternative medicine (CAM) is widely used as supplement to conventional or mainstream health care and as part of traditional health care systems and practice¹. The national centre for complementary and alternative medicine (NCCAM) define CAM as “a group of diverse medical and health care systems, practices and products that are not presently considered to be part of conventional medicine”².

Complementary medicine can be used to identify a range of pharmaceutical type preparation, herbal medicines, homoeopathic remedies, essential oils and dietary supplements³. Moreover, herbal preparations are produced by subjecting herbal materials to extraction, fractionation, purification, concentration or other physical or biological processes. They may be produced for immediate consumption or as the basis for herbal products³.

The global prevalence of use of medicinal herbs continues to rise as patients self-medicate with or without informing their physicians¹. Recently, the World health organization detect that 80% of people Worldwide depend on herbal medicines, which is considered as a primary source of health care¹. Many studies reported an increase of herbal

QUICK RESPONSE CODE 	DOI: 10.13040/IJPSR.0975-8232.9(7).2859-68
	Article can be accessed online on: www.ijpsr.com
DOI link: http://dx.doi.org/10.13040/IJPSR.0975-8232.9(7).2859-68	

use as a medicine as part of CAM^{4, 5}, and the increase is notable among women and higher educated population^{6, 7}. Herbs are considered the second most commonly used form of complementary and alternative medicine by public, where it is considered more culturally acceptable, less dangerous and a more natural form of medicine that is compatible with the human body^{4, 6}. For example, in national telephone surveys of US adults, the prevalence of using herbal and dietary supplements increased from 14% in nineties to 19%.

In 2002, it doubled in those 65 years and older. Additionally, the annual expenditures for herbs and dietary supplements exceed four \$ billion annual⁹. Unfortunately, many physicians have limited knowledge, confidence and acceptance about herbs and dietary supplements (HDS)⁸.

Misconceptions and misuses of herbal medicines have been observed in many common practices^{5, 10}. The role of herbal medicines has not been fully investigated in Saudi Arabia, as far as our literature concerned, and physicians may feel uncomfortable to discuss this subject especially if they have poor knowledge regarding it. Therefore, this study was aiming to determine the primary care physicians' knowledge, attitude and identify gaps in knowledge about use of herbs as medicine.

A study was conducted at 2005 to determine the level of physicians' acceptance and knowledge regarding herbal medicine, knowledge was assessed by identifying some medical herbs, their uses, contraindications, side effects and herb-drug interactions.

Of 192 physicians interviewed 60.4% believed that herbal therapies were salubrious. About 40% of total score showed high acceptance levels and poor knowledge, and 40.6% used herbs in the past. 27.1% of physicians recommended the use of herbs to their patients and only 15.1% they can identify one herb drug interaction, recommended educational program to narrow the deficiency between physicians' opinion and knowledge of physicians regarding herbal therapies¹².

Another study was conducted in Northwest area health educational center (NWAHEC) of Wake Forest University school of medicine (WFUSM).

The study was about expertise about herbs and dietary supplements among different health professionals, 1268 participants, and 25% were male, scores for knowledge was 66%. 85% of the participants used herbs and dietary supplements like: multivitamins (64%), green tea (26%), fish oil (26%), and flax seed (18%)³. About 34.4% of doctors used complementary medicine, some of doctors prevent their patients to use some herbs and 31% of patients ignore doctors' advice and recommendations. The researcher determines that the use of complementary and alternative medicine is poor among medical physicians, conclude that clinicians have moderate levels of knowledge and confidence but poor communication skills about HDS and need educational interventions that target the needs of professionals³.

There was study done on 2008 at McMaster University, Hamilton, Ontario, to assess the qualifications and attitudes of physicians in training the transaction with herbal medicines. The participants indicated poor confidence when dealing with herbal medicines, 80% felt that 1 in 10 patients have the capability in the usage and safety of herbal remedies, they conclude that increased training on benefits and harmful of herbal medicines may help increase health care system for patients using herbal medicines¹³. An international systematic review study concluded that medical students are the most critical of CAM when compared to the students of other professions due to the paucity of sufficient medical evidence regarding it. The need for further education among medical practitioners in the field of CAM is a common conclusion⁵.

A study done on 2008 at Aydin city in the turkey, founded that the herbs are most commonly consumed in that area, fifty-eight person of the participants reported that they had used a CAM method at least once in the previous year. more than half of the participants had used herbal medicines (55.4%) and the most commonly used herb was lime (88.1%). The reason for the use of herbal medicines is for the treatment and prevention and conclude that population in the Aydin city used herbs as treatment for themselves and for their children¹⁴. There was a study done on 2013 about attitude of consumers towards the use and safety of herbal medicines in Serbia, showed

that aged 41 - 60, they consumed herbal medicines by themselves and about 88.9% did not see important to inform their physicians or pharmacist about using of herbal medicines.

And about 73.3% found the use of herbal medicines harmless and 40.3% found that combination of herbal medicines and regular drugs are unsafe, concluding there is a need for education about using of herbal remedies among consumers to improve the awareness of safety and limits the side effects of herbal remedies¹⁵.

A study conducted in seven private pharmacies during 2013 in Riyadh, Saudi Arabia determine the awareness of people regarding using herbal medicines, the study showed that 91.1% of the people did not take advice from physicians before taking herbal medication and only 8.8 take advice from pharmacist or doctors, 49.5% found that combination of herbal medicines and conventional therapy unsafe. Conclude that awareness of people regarding using and safety of herbal medicines is lacking and it is a responsibility of physicians to advice the people for benefits, side effects and medical interactions of herbal medicines¹⁶.

In 2012, a study was conducted in Riyadh region among 309 healthcare professional in 19 hospitals showed that 76.9% recognized herbal medicine as one of the most popular form of alternative medicine in the country. Herbal medicine ranked third behind prayers (90.5%), honey and bee products (85.0%). The authors reported that approximately 88% of the participants exhibited some knowledge of alternative medicine in general and higher knowledge was seemed to be associated with higher education level among their participants¹⁷.

Another study done in Riyadh 2012 showed that herbal medicine was the second lowest form of complementary and alternative medicine (25.8%), the physicians felt comfortable to discuss it with their patients. Fortunately, the study reported that over 85% of the participated physicians could benefits from education about Complementary and alternative medicine, and about 75.7% reported that knowledge about CAM lead to better outcome¹⁸.

In 2014, there was a study about medicinal plants used by the Marakwet Community in Kenya. The

study showing that using herbal medicines by herbalist have not well documented, also gave information regarding medicinal herbs and healing methods¹⁹. There was a study done on 2014 in Nepal about traditional uses of medicinal plants in gastrointestinal disorders. Conclude the importance of medicinal herbs used in Nepal to treat the gastrointestinal disorders, also the study emphasis on the importance to increase the aperture to traditional medicine²⁰.

In 2015, we discover a study regarding medicinal plants used for neurological and mental disorders in Navarra. Showed that there is a higher degree of knowledge regarding plants used for neurological and mental disorders in Navarra²¹. There was a study conducted in 2016 about medicinal plants used for ophthalmological problems in Navarra (Spain) deducted that there is a good basis for four plants used for their pharmacological effects for ophthalmological disorders and the other plants should be screened for their safety and activities²².

A study conducted during 2017 in Jordan, it was about medicinal plants used by traditional healers in Jordan, the Tafila region. The study revealed that 41 plants used in this region for treatment of different diseases and the variation in the plants use for medical conditions showing that there are difference in knowledge regarding herbs and their use, that explain the diversity of plants in the middle east²³. There was a study done in 2018 about traditional wound healing plants used in the Balkan region, conclude that combination of traditional and modern knowledge may result in wound healing drugs with a less side effects, also there is a need for additional studies to show benefits of use plants in wound healing²⁴.

Herbal medicines are most commonly used in Arabic world, and there is some herbal products most common consumed among Arab population like flaxseed, ginger, fenugreek, black seed, myrrh and sagebrush, we also found some study regarding these herbs in their effects on chronic diseases like diabetes mellitus, hypertension, hyperlipidemia and osteoporosis. There was a randomized placebo controlled clinical trial study done in diabetic clinic (Karaj city), showed improved glycemic control and lipid profile in hyperlipidemic type 2 diabetes patients that consumed sage extract, the fasting

blood sugar decrease by 32.2% and total cholesterol by 16.9%, triglyceride 56.4% and LDL-cholesterol 35.6%²⁵. Another study measured the effects of ginger on fasting blood sugar and hemoglobin A1C, of 41 persons (22 in the ginger group and 19 in the control group); conclude that patients in the ginger group showed improved in fasting blood sugar²⁶.

There was study done in 2009 at United States of military base among 109 type 2 diabetes (HbA1c<7.0) about effectiveness of cinnamon for lowering hemoglobin A1c in patients with type 2 diabetes. A randomized controlled trial showed that the patients took 1g capsule daily for 90 days the HbA1c drawn (0.83%) with the usual care²⁷.

There was study about effectiveness of fenugreek on diabetic patients, they found effectiveness of fenugreek in type 2 diabetes as it decrease insulin resistance and improve glycemic control²⁸. In addition, it can decrease insulin/glucose ratio in overweight people²⁹. A study published in 2012 about flaxseed dietary fibers in lowering cholesterol and increase fecal fat excretion, the study was tested 3 different dietary fibers, flaxseed drink and flaxseed bread compared with control group, the study showed that flaxseed drink lower the cholesterol (12 and 15%) whereas flaxseed bread reduce the cholesterol (7 and 9%) respectively³⁰.

There was a study done in 2009 at king Fahad Hospital for the university and Al-Aqrabia primary health care center, Al-Khobar, Saudi Arabia. To measure the impact of black seed on lipid profile in type 2 diabetic patients, the study divided the patients into 3 groups. They gave them capsules containing of 1, 2 and 3 g of black seed for 12 weeks, the patients that received 1g of black seed showed increase in HDL after four weeks of treatment and the patients received 2 g showed greater decline in TG, TC and LDL-cholesterol and increase in HDL³¹.

One study reported that ginger lower the blood pressure through blockade of calcium channels blockers³². In addition, there was study done in 2014 explored the effect of flaxseed on reducing the blood pressure. 11 study (14 trials) with total of 1004 participants were included, showed that

flaxseed can slightly lower the systolic and diastolic blood pressure but the effect was greater on systolic blood pressure when it consumed for more than twelve weeks and consumed as a whole seed³³. A double-blind randomized controlled trial study was performed to explore the effect of black seed oil in healthy individuals. Among 70 people aged 34 to 63 years, with systolic between 110 to 140 and diastolic 60 to 90, the patients that received black seed oil two times per day for 8 weeks showed decrease in systolic and diastolic blood pressure³⁴.

There was a randomized controlled clinical trial study done in 2015 about efficacy and safety of topical chamomile oil for knee osteoarthritis. Among 130 patients, the results showed that the patients used acetaminophen; the pain was lowered in chamomile group compared with diclofenac and placebo group. The use of chamomile oil can decrease the need for analgesics in patients with Osteoarthritis and improve the physical function and stiffness of those patients³⁵.

Another study done in 2015 measured the effect of ginger on pain of patients with knee osteoarthritis, the patients divided in two groups, the ginger group was took 2 tablets of 500 g of ginger over 12 weeks. The results showed effectiveness of ginger in relieving the pain in patients with osteoarthritis³⁶.

Therefore, there is a need for studying awareness of family physicians about use of herbs among patients; and to describe knowledge of family physicians regarding patients' use of common herbs in chronic diseases; and attitude, practice of family physicians regarding the use of herbs.

Methods:

Study Settings: The current study was conducted among primary care physicians at Prince Sultan Military Medical City (PSMMC), Al-Wazarat Health Center (WHC), in Riyadh, Saudi Arabia. The WHC is one of largest primary health care centers under the Medical Service Department (MSD) at the ministry of defense in Saudi Arabia, which is one of the 15 primary care centers that are distributed throughout Riyadh. The center is located in the center of Riyadh city and serves almost 1200 patients per day.

Population: The current study targeted primary care physicians, who are working in the general and chronic disease clinics at the WHC.

Study Design: A cross-sectional study was carried out between February 2016 and June 2017.

Sample Size: Previous studies measuring the primary care physician level of acceptance and knowledge showed marked disparity between acceptance and knowledge of herbal medicines, with the prevalence of acceptance was 40%, whereas the prevalence of knowledge was 15%. We used this published prevalence rate to calculate the sample size of 79% primary care physicians.

The Sample size was calculated based on the following formula:

$$\text{Sample size} = (Z\alpha/2)^2 p(1-p)/E^2$$

$Z\alpha/2 = 1.96$ (the critical value that divides the central 95% of the Z distribution from the 5% in the tail).

$P =$ the prevalence of the outcome variable.

$E =$ the margin of error.

The estimated population was 102 with an accepted margin of error (ϵ) of 5% and at a confidence level of 95%. The expected level of satisfaction was (p) = 0.4.

Sampling Technique: A non - probability convenience sampling

Data Collection: The questionnaire was composed of three main parts: socio-demographic characteristics, physicians' opinion, attitude and practice regarding the use of herbs, and the last part about knowledge of physicians about certain herbs most commonly used in the Arab world in chronic disease treatment.

The socio-demographic characteristics were composed of 8 questions: age, gender, nationality, marital status, whether the participant has children, position, highest medical qualification and years of job experience since graduation.

The second part contains 6 questions about physicians' opinion regarding the use of medicinal herbs and 5 questions regarding attitude and

practice. The third part contains 13 questions about knowledge of physicians regarding certain herbs.

The data were collected between 7th and 23rd of March 2017.

Statistical Method: Descriptive statistics and graphical representation of the data was employed throughout the current work to display categorical variables percentages and continuous variables in mean and standard deviation.

The response rate was 100% of all conducted physicians. Ethical approval was obtained from the research ethics committee, and from the program director of the family medicine residency program in PSMMC.

RESULTS: The socio-demographic characteristics of the participants are presented in **Table 1**. The average age of the participated physicians was 37.2. The gender was almost equally distributed with slightly higher male's representation (54.9%). The majority are married (85.3%), have 3 - 4 childs (39.2%), 1 - 2 childs (30.4%), no children (27.5%), and > 4 children (2.9%). The medical position varied between the respondents, registrars (33.3%), senior registrar (25.5%), consultants (22.5%) and residents / senior house officers (SHO) (18.6%). The physicians are mostly Saudi locals (57.8%). Family medicine board was the highest qualification among 56.9%. Saudi Arabia was the origin of board certification for 52.9% of the participated physicians. The medical experience was mainly below 10 years (55.9%).

The attitude and practice of the physicians in herbal medicines was investigated through 11 questions **Table 2**. The majority exhibited interest in learning more about medicinal herbs (82.4%). However, only 42.2% think that herbs can be beneficial in diseases management. The belief of herbs usage when conventional medicine fails was only among 16.7%. The need for further education was among 87.3%. The agreement about the need for laws to regulate medicinal herbs in Saudi Arabia is the highest aspect among the physicians with 93.1%.

The participants were asked to self-assess their knowledge about medicinal herbs. Approximately 34% considered their knowledge satisfactory of good.

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPATED PHYSICIANS (n = 102)

Characteristic	Mean ± SD	Frequency	Percentage
Age	37.2 ± 9.8		
Gender			
Male		56	54.9
Female		46	45.1
Total		102	100.0
Marital Status			
Single		15	14.7
Married		87	85.3
Total		102	100.0
No. of Children			
No. Children		28	27.5
1 – 2		31	30.4
3 – 4		40	39.2
> 4		3	2.9
Total		102	100.0
Position			
Consultant		23	22.5
Senior Registrar		26	25.5
Registrar		34	33.3
Resident or SHO*		19	18.6
Total		102	100.0
Nationality			
Saudi		59	57.8
Jordan		2	2.0
Egypt		12	11.8
Sudan		17	16.7
Asian (Pakistan, India, etc.)		12	11.8
Total		102	100.0
Qualification			
MBBS		22	21.6
Family Medicine		11	10.8
Diploma			
M.Sc.		10	9.8
Ph.D.		1	1.0
Family Medicine Board		58	56.9
Total		102	100.0
Country of Medical Board			
No Medical Board		42	41.2
Saudi Arabia		54	52.9
Jordan		2	2.0
Egypt		1	1.0
Sudan		2	2.0
Asian (Pakistan, India, etc.)		1	1.0
Total		102	100.0
Experience			
< 10 years		57	55.9
10 - 20 years		35	34.3
> 20 years		10	9.8
Total		102	100.0

* SHO: Senior House Officer

The largest portion of the participants considered their knowledge poor or very poor. The frequent use of herbal medicines by physicians was reported by 2% of the physicians, 50% sometimes, 30.4% rarely, and 17.6% never. Recommending herbs frequently to patients was reported by 1%, sometimes 19.6%, rarely 49.0%, and never 30.4%.

TABLE 2: QUESTIONS OF THE PHYSICIAN'S ATTITUDE AND PRACTICE OF HERBAL MEDICINE (n = 102)

Question	Frequency	Percentage
Would you have any interest to know more about medicinal herbs?		
Yes	84	82.4
No	18	17.6
Do you think use of herbs by patients are helpful or beneficial in their management?		
Yes	43	42.2
No	24	23.5
I do not know	35	34.3
Do you think that using of herbs should be limited to patients who have failed conventional therapy?		
Yes	17	16.7
No	61	59.8
I do not know	24	23.5
Further education should be provided to physicians about use of herbs for medicinal purpose, do you agree with this statement.		
Yes	89	87.3
No	13	12.7
Do you agree there is a need for law to regulate medicinal herbs in Saudi Arabia?		
Yes	95	93.1
No	3	2.9
I do not know	4	3.9
How do you evaluate your knowledge regarding medicinal herbs?		
Very poor	10	9.8
poor	57	55.94
Satisfactory	31	30.4
Good	4	3.9
Have you ever personally used herbs as a medicine?		
Never	18	17.6
Rarely	31	30.4
Sometimes	51	50.0
Frequently	2	2.0
Have you ever advised your patients to use herbs for medicinal purposes?		
Never	31	30.4
Rarely	50	49.0
Sometimes	20	19.6
Frequently	1	1.0
Would you ever advise your patients to refrain (stop) using certain herbs during using any other medicine?		
Yes	70	68.6
No	32	31.4
Would you be worry that your patients will take medicinal herbs without consulting you?		
Yes	70	68.6
No	32	31.4
Have you ever asked your patients in your clinic if they take any kinds of herbs?		
Never	6	5.9
Rarely	31	30.4
Sometimes	28	27.5
Frequently	37	36.3

Advising patients to not use herbs while using other medications was observed in 31.4% of the physicians. These physicians also expressed concerns over using herbs while using other medications. About the frequency of asking the patient of using herbs, 36.3% answered they ask frequently, 27.5% sometimes, 30.4% rarely, and 5.9% never. The physicians' answers about sources of knowledge for herbs and herbal medicine are presented in **Fig. 1**. The main source of knowledge is medical journals (57.8%); Internet (42.2%), television programs (30.4%).

When asked if they think further herbal medicine education should be provided to physicians, 27.6% expressed that they do not feel further education is

necessary. The answers for those who agreed with the idea of further education are shown in **Fig. 2**.

35.8% of the answers suggested to be part of the residency program, 32.8% compulsory workshops, 24.1% part of the Bachelor of medicine and surgery, and 7.3% other stages. We asked the participants 11 questions about common herbs used in Arabic World and some beliefs and medical evidences about these herbs. No physicians managed to score more than 5 correct answers. Only 3 (2.9%) answered 5 correctly, 4 (3.9%) answered 4 correctly, and 7 (6.9%) answered 3 correctly. For the distribution of the answers, see **Fig. 3**.

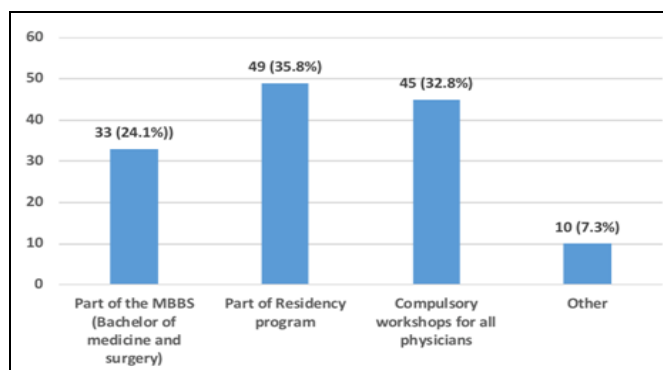


FIG. 2: STAGE(S) WHERE FURTHER EDUCATION ABOUT HERBAL MEDICINE SHOULD BE PROVIDED TO PHYSICIANS (n = 74)

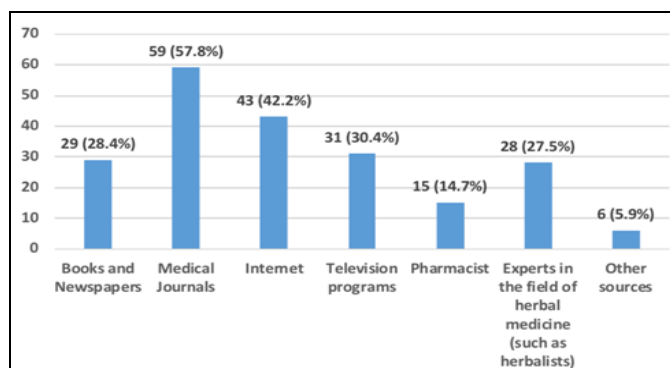


FIG. 1: SOURCES OF KNOWLEDGE ABOUT HERBS AND HERBAL MEDICINE (n = 102)

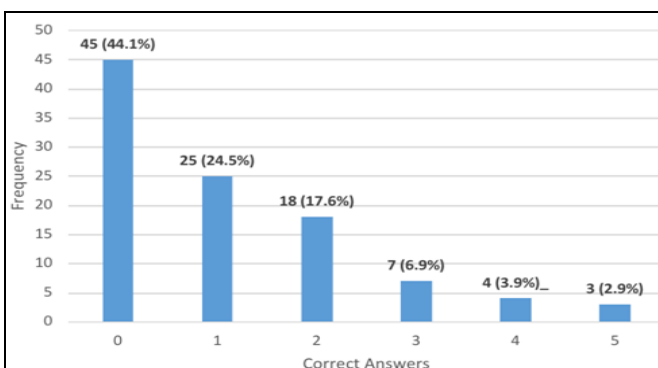


FIG. 3: DISTRIBUTION OF THE CORRECT ANSWERS BY THE PARTICIPANTS (n = 102)

DISCUSSION: In this cross-sectional survey, the attitude, practice and knowledge of herbs as medicine among 102 general practitioners were investigated. The majority of the physicians showed interest towards learning about medicinal herbs. However, the practice and knowledge levels remain very low. The gap between being interested in and knowledgeable about the use of herbs as medicine by the primary care physicians may

indicate the differential between their cultural and personal beliefs and lack of access to information. Despite that, almost half of the study participants (42.2%) believe that herbs can be beneficial in diseases management, only 2% reported frequent use of herbs. Furthermore, only 1% of our sample reported advising patients about using herbal medicine frequently. This result could be directly related to the physician fears to accept herbs as an

alternative modality of management, which could be explained by their lack of sufficient knowledge on herbs uses and potential risks as medication.

The result also showed that most of the physicians realized the importance of education regarding the use of herbal remedies in management. Nearly two third of the study participants believed that physicians should be educated about herbal medicines. Some suggested including herbal remedies education in the undergraduate or postgraduate medical education or as a compulsory workshop for all physicians.

In 2012, a study was conducted in Riyadh region among 309 healthcare's professional in 19 hospitals showed that 76.9% recognized herbal medicine as one of the most popular form of alternative medicine in the country¹⁷. Herbal medicine ranked third behind prayers (90.5%) and honey and bee products (85.0%). The authors reported that approximately 88% of the participants exhibited "some knowledge" of alternative medicine in general and higher knowledge was seemed to be associated with higher education level among their participants¹⁷. However, our study showed that level of the physicians' knowledge was very poor. Most of the physicians did not know the correct answers about the medical use of some of the commonly used herbs in Arabic world. The previously mentioned study was focusing on alternative medicine in general and involve different specialties not only primary care while our study focused only on herbal medicine and excluded other forms of alternative medicine which may explain the different finding between both studies. However, both studies showed similarities in the physicians desire to learn more about herbal medicine.

A systematic review of 16 studies reported herbal medicine is the second most commonly used form of complementary and alternative medicine (CAM) by public⁴. Herbal use as medicine is also very common practice by Saudi population, and in one study found the Saudis populations that used herbs for chronic conditions account for only 20% and for acute conditions for 70% and that ginger and myrrh was the most common herbs used among Saudis, the reason to use herbs was easy accessibility and recommendations from friends³⁷.

Moreover, patients should have the right in discussing their practice in using herbs as medicine freely with their physicians in non-judgmental environment. Unfortunately, physicians may feel uncomfortable to discuss this subject especially if they have poor knowledge regarding the subject. Physicians also may be more uncertain when it comes to the use of complementary and alternative medicine since the lack of medical evidence plagues these practices, which would make them more hesitant to discuss herbs with their patients⁵.

This finding was observed in many studies including a recent Saudi study done in Riyadh in 2012¹⁸. In this study, herbal medicines was the second lowest form of complementary and alternative medicine (25.8%) the physicians felt comfortable to discuss it with their patients¹⁸. Fortunately, the study reported that over 85% of the participated physicians could benefits from education about complementary and alternative medicine. These conclusions with the results of our study show very poor knowledge of herbal use in medicine.

The current study results emphasis on the importance of initiation of an education program to improve the primary care physicians' knowledge regarding herbal medicine. An international systematic review study concluded that medical students are the most critical of CAM when compared to the students of other professions due to the paucity of sufficient medical evidence regarding it⁵. Therefore, we can conclude that the need for further education among medical practitioners in the field of CAM is a common conclusion a cross studies and countries. Despite the lack of knowledge among physicians, many studies reported an increase of herbal use as medicine as part of CAM^{4, 6}. The increase is notable among women and higher educated population^{5, 7}.

Personal beliefs can also play role in the use of such forms of medicine¹⁰. Several medical studies warned of many adverse effects that accompany the misuse of herbs^{6, 11, 38}. The increase of herbal medicines has two unsolved problems. The first one, the lack of evidence in many areas and the second problems is the disparity between the common use of some herbs and the available

evidence⁵. Misconceptions and misuses of herbal medicines have been observed in many common practices^{5, 10}. The advantage of this study is the tackling of a very prominent issue in modern medicine. It addresses one of the most shared issues among public on social media.

The role of herbal medicines has not been fully investigated in Saudi Arabia as far as our literature search is concerned. However, the study cross-sectional design cannot be used to draw causality and there is a need for a larger and more comprehensive sample size that take into account diverse setting geographically and clinically in order to produce clearer overview of the situation.

CONCLUSION: The study showed low level of knowledge about the use of herbs in medicine among primary care physicians in Riyadh. It also showed negative attitude toward the practice of recommending herbal medicines to patients, which can be explained by the lack of physicians' knowledge regarding it and can possibly be the reason behind the lack of communication between physicians and patients about the use of herbal medicines. Finally, the study results emphasis on the importance of initiating educational programs. And the need for Studies that take into account different settings and geographical locations.

Also Wider investigation about the common practices among Saudi population to enhance the physicians knowledge about the patients practices. In addition, there is a need for studies that investigate the effect of implementing educational programs about CAM and more specifically, herbal medicines on the overall health outcomes.

ACKNOWLEDGEMENT: We would like to thank Dr. Tarek Al-Said, Dr. Ayman Afify and Dr. Abuobieda Abdalrouf, for their valuable assistance during the questionnaire validation. Dr. Osama Abdelhay, for his great help in the data entry and analysis.

CONFLICT OF INTEREST: The investigator declares that there is no conflict of Interest.

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How to cite this article:

Al-Omair DA, Al-Arfaj G and Abbas MAF: Knowledge and attitude of primary care physicians toward use of herbs as medicine in Al-wazarat health center, prince sultan military medical city, Riyadh, Saudi Arabia. Int J Pharm Sci Res 2018; 9(7): 2859-68. doi: 10.13040/IJPSR.0975-8232.9(7).2859-68.

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