

Complementary and Alternative Medicine Practice among Saudi Patients with Chronic Kidney Disease: A Cross-sectional Study

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Background

Chronic kidney disease (CKD) is a major universal public health problem due to its increasing incidence and high prevalence and its associated adverse complications, such as end-stage renal disease (ESRD), cardiovascular disease, and premature death. However, despite the advances of contemporary medicine, complementary and alternative medicine (CAM) still prevails, even in the developed societies. Considering the sequelae of kidney failure and the possible adverse impact on the quality of life, many patients shift to CAM practices to cope with the symptoms and control the disease. However, statistics regarding CAM practices among patients with CKD in Saudi Arabia and worldwide are limited, possibly because many patients who practice CAM for CKD may withhold this information from their primary healthcare providers. The prevalence of CAM usage varies worldwide. Several studies have investigated the prevalence of CAM use among patients with CKD and renal transplant recipients. Osman et al. showed that 52% of patients with CKD were using CAM, of whom 78% were using herbal and natural products.

Methods

A cross-sectional study was conducted in 315 patients, who were divided into CKD stages 3-4, CKD stage 5-hemodialysis, and kidney transplant with functioning allografts, by using a convenience sampling technique between September and December 2018. Next, they answered a self-administered questionnaire. The study outcomes were the prevalence of CAM, CAM types, reasons for using herbs, and the source of information about CAM.

Results

Of 315 patients have completed the questionnaire and included in the final data analysis, 173 (54.9%) were CAM users, with a mean age of 37.65 ± 16.78 years compared with 36.61 ± 16.31 for CAM nonusers (n = 142). Monthly income and CAM practice had a statistically significant difference (P = 0.021). Post hoc analysis revealed that monthly income [5,001–10,000 Saudi Arabian Riyals (SAR)] is significantly associated (P = 0.008) with CAM practice (reference category was the monthly income of >10,000 SR). (Table 1)

A total of 153 (88.4%) CAM patients were herbal users, with a mean age of 37.24 ± 16.66 years. Of these 153 CAM patients, 135 (88.2%) were at CKD stages 3-4, 9 (5.9%) were at CKD stage 5-hemodialysis, and 9 (5.9%) were CKD-transplant recipients. Most of the herbal users were females [94 (61.4%)], married [106 (69.3%)], at the university level [74 (49%)], unemployed [119 (77.8%)], living outside Riyadh [60 (39.2%)], and had a monthly income of $\leq 5,000$ [31 (53.4%)]. The most frequently reported herbs used by herbal users were *Nigella sativa* [94 (61.4%)], followed by parsley [78 (51%)], lemon [60 (39.2%)], and garlic [56 (36.6%)] (TABLE 2). In patients with CKD stages 3-4, the most frequently used herbs were *N. sativa* [79 (58.5%)] and parsley [72 (53.3%)]; the least used ones were barley [18 (13.3%)] and hibiscus [20 (14.8%)]. Remarkably, 250 (79.4%) of the study participants did not report CAM practice to their primary physicians, and 36.5% of them were assessed by their primary physicians about CAM practice. Friends/family [81 (52.9%)] was the most reported source of information about herbal use, followed by media [52 (33.9%)], healthcare provider [17 (11.1%)], and herbalists [3 (2%)]. Finally, 38.2% and 14.5% of CAM users have reported the use of honey and Alhijamah, respectively.

Table 1. Comparative analysis by stratification of CAM users and nonusers with their characteristics

	CAM Users n (%)				Nonusers n (%)	P value
	All	CKD stages 3-4	CKD stage 5-HD	CKD-transplant		
Numbers	173 (54.9)	151 (87.3)	13 (7.5)	9 (5.2)	142 (45.1)	-
Age in years (mean \pm SD)	37.65 \pm 16.78	36.63 \pm 15.70	50.54 \pm 24.50	40.67 \pm 14.76	36.61 \pm 16.31	0.577
Gender						
Male	69 (39.9)	58 (38.4)	5 (38.4)	6 (66.6)	51 (35.9)	0.470
Female	104 (60.1)	93 (61.5)	8 (61.5)	3 (33.3)	91 (64.1)	
Marital status						
Single	44 (25.4)	40 (26.5)	3 (23.1)	1 (11.1)	50 (35.5)	0.147
Married	119 (68.8)	104 (68.9)	7 (53.8)	8 (88.9)	85 (60.3)	
Divorced	10 (5.8)	7 (4.6)	3 (23.1)	0	6 (4.2)	
Education						
Illiterate	8 (4.6)	7 (4.6)	1 (7.6)	0	8 (5.6)	0.233
Primary	21 (12.1)	14 (9.2)	6 (46.2)	1 (11)	9 (6.4)	
Secondary	62 (35.8)	55 (36.42)	3 (23.1)	4 (44.5)	62 (43.7)	
University	82 (47.4)	75 (49.6)	3 (23.1)	4 (44.5)	63 (44.3)	
Occupation						
Employed	37 (21.4)	31 (42.5)	4 (44.4)	2 (66.7)	28 (40)	0.658
Unemployed	48 (78.6)	42 (57.5)	5 (55.6)	1 (33.3)	42 (60)	
Location						
Riyadh	109 (63)	95 (62.9)	9 (69.2)	5 (55.6)	75 (54.3)	0.123
Outside Riyadh	64 (37)	56 (37.1)	4 (30.8)	4 (44.4)	63 (43.7)	
Monthly income (SAR)						
$\leq 5,000$	40 (60.6)	33 (57.9)	3 (42.9)	1 (33.3)	35 (56.6)	0.021*
5,001–10,000	19 (28.8)	15 (26.3)	3 (42.9)	1 (33.3)	6 (17)	
$\geq 10,000$	7 (10.7)	9 (15.8)	1 (14.2)	1 (33.3)	13 (26.6)	

Objectives

Complementary and alternative medicine (CAM) practice in patients with chronic kidney disease (CKD) has significantly increased. However, statistics regarding CAM practices among patients with CKD in Saudi and worldwide are limited. Hence, this study aimed to explore the prevalence and types of CAM in Saudi patients with CKD.

Discussion

Our study is the first to assess CAM practice among a sample of Saudi patients with CKD and renal allograft recipients. Regular CAM practice was reported by 54.9% of our study participants. These findings are similar to previously reported figures among patients with CKD. In our study, Contrary to previous literature that reported a significant influence of patients' demographic characteristics and CAM practice among patients with CKD, our figures showed that monthly income was the only characteristic that had a significant association (P = 0.021) with CAM practice, whereas age, gender, educational status, marital status, occupational status, and geographic region had no influence on CAM practice. The difference in the results between various studies about CAM practice may be related to the differences in the study sample, the geographical setting of these studies, or the fact that patients were reluctant to report their CAM practice to healthcare providers. In the current study, the most commonly used CAM type was herbs (88.4%), followed by honey (38.2%) and Alhijamah (14.5%). These results are consistent with the data reported by Alrowis et al. where in they revealed different CAM modalities in the Saudi population. The common types of herbs used among CAM users in the present study were *N. sativa* [94 (61.43%)], followed by parsley [78 (51%)]. However, *N. sativa* constitutes the top most reported herb in CKD stages 3-4 and CKD stage 5-hemodialysis. These findings conform to other studies results reported from the Arab world. *N. sativa* is part of the prophetic medicine that is common in the Arabic countries, but no sufficient reliable evidence can support its use among patients with CKD apart from the possibility of having an antioxidant impact. The present study revealed that 79.4% of CAM users did not report CAM practice to their primary physicians. This practice continued without informing healthcare providers, as shown in our study and other studies. primarily because healthcare providers did not inquire on CAM practice. Therefore, healthcare providers must be aware of CAM practice among their patients and critically inquire about such practices that may interact with the conventional treatment. Meanwhile, this study has some limitations. For instance, its cross-sectional design and the results are subjected to recall bias regarding CAM practice. Moreover, the convenience sampling method (nonrandom) is considered as a source of bias because it will produce a non-representative sample.

Table 2. Most frequently reported herbs used by herbal user participants, n (%)

Herbs	All users (n = 153)	CKD stages 3-4 (n = 135)	CKD stage 5-HD (n = 9)	CKD-transplant (n = 9)
	Parsley	78 (51)	72 (53.3)	3 (33.3)
Barley	23 (15)	18 (13.3)	3 (33.3)	2 (22.2)
Aniseed	42 (27.5)	37 (27.4)	3 (33.3)	2 (22.2)
Commiphora myrrha	30 (19.6)	25 (18.5)	3 (33.3)	2 (22.2)
Garlic	56 (36.6)	49 (36.3)	2 (33.3)	5 (55.6)
Lemon	60 (39.2)	51 (37.8)	3 (33.3)	6 (66.7)
Nigella sativa	94 (61.4)	79 (58.5)	9 (100)	6 (4.4)
Fenugreek	35 (22.9)	31 (23)	3 (33.3)	1 (11.1)
Olive oil	39 (25.5)	33 (24.4)	3 (33.3)	3 (33.3)
Thyme	32 (20.9)	29 (21.5)	2 (22.2)	1 (11.1)
Hibiscus	21 (13.7)	20 (14.8)	0	1 (11.1)
Gum Arabic	39 (25.5)	34 (21.2)	2 (22.2)	3 (33.3)
Most common reasons for herbal usage				
Treatment of CKD or other comorbidities (n = 96)	96 (62.7)	82 (60.7)	9 (100)	5 (55.6)
Prophylaxis from disease (n = 46)	46 (30.1)	41 (30.4)	1 (11.1)	4 (44.4)
Belief that herbs may improve condition without harm (n = 23)	23 (15)	19 (14.1)	2 (22.2)	2 (22.2)

Conclusions

CAM practice and herb consumption were highly prevalent among patients with CKD. Patients inadequately inform the primary physicians about their CAM practices. Therefore, healthcare providers are encouraged to inquire about these practices.

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