Original Article :

Public Knowledge About Hijamah, Attitudes, Beliefs and Impact on Health-Related Quality of Life in Riyadh, Saudi Arabia

Amjad Olayan Alharbi [1], Mohammed AlDosari [2], Haifa Bin Dokhi [1], Shaddin Alaskar [1] ,Yusra Sajid Chachar [3]

1. Medical intern, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

2. Consultant, Assistant Professor of Family Medicine, King Abdualziz Medical City, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

3. Lecturer, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

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Corresponding Author:

Dr. Mohammed Nasser AlDosari, Consultant of family Medicine,
Family Medicine & PHC Department, King Abdulaziz Medical City, Riyadh
Assistant Professor of Family Medicine, College of Medicine KSAU-HS,
King Saud bin Abdul-Aziz university for Heath sciences, Riyadh, Saudi Arabia
P.O. Box 22490 Riyadh 11426 Saudi Arabia
Email Address: dosarimoh@ksau-hs.edu.sa , Mobile: 0506481681

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Abstract

Background and Aims:
Wet cupping, which is known as Hijamah, is one of the most commonly practiced therapeutic procedures in Saudi Arabia. Hijamah centers have been really popularized, reaching up to 119 licensed centers in the country. Despite its prevalence in the region, there is still insufficient research on such procedure. The aim of this study is to assess patients' knowledge, beliefs, attitudes toward Hijamah, and to determine its impact on health-related quality of life.

Methods:
This is an observational, cross-sectional study. A total of 551 Saudi participants, both genders, above the age of 18 years, who were practicing Hijamah were included in this study. The data were collected through an online validated self-administered questionnaire from July 2020 to March 2021. The questionnaire requested information about age, gender, educational level, as well as the participants' knowledge, attitude, and perceptions of cupping therapy. (SPSS Inc., Chicago, IL, USA) was used for statistical computations. Chi-square test was used to assess the associations. P-value of less than 0.05 was considered significant.

Results:
Out of 551 participants, 43.4% believe that Hijamah is an effective alternative therapy, most of them being older in age. 42.8% of diabetic participants noticed an improvement in their condition. The majority stated that Hijamah was used therapeutically, mainly for fatigue and headache. Almost all study participants (92.4%) would recommend Hijamah to others. Majority of participants (65.9%) reported they would inform their physicians before undergoing Hijamah. Lastly, (71.69 %) of participants believe their physicians did not trust in Hijamah therapy.

Conclusions:
This study shows that Hijamah is highly accepted in our society. Hijamah might have a positive impact on health-related quality of life, and might be used to treat or prevent chronic illnesses. Further future research is needed to understand the biological effects of Hijamah and to formulate an evidence-based knowledge.

Keywords:
Hijamah, cupping therapy, quality of life, Saudi Arabia.

Introduction

Cupping is a common complementary therapy practiced in the Middle East that uses suction cups on certain areas on the skin for therapeutic reasons. This alternative therapeutic procedure can be subdivided into dry and wet cupping. In dry cupping therapy, cups are applied on the skin creating suction of the skin only, so there is no excretion of blood or vascular fluids[1]. Wet-cupping is the most frequently practiced type in Saudi Arabia, and it is referred to as "Hijamah" [2]. It is performed by puncturing the skin where a suction is then created by applying heated cups, excreting blood and stimulating circulation[3,4].

Hijamah is one of the oldest therapeutic methods in medicine. While it is widely common in areas like East Asia and the Middle East, this treatment technique is infrequently used in the Western region. Among Muslims, Hijamah is also practiced and is considered as a religious therapy upon the encouragement of Prophet Mohammed 1400 years ago [2]. According to the National Center for Complementary and Alternative Medicine, there are 119 authorized Hijamah centers in Saudi Arabia [5] . Furthermore, it was ranked as the third leading traditional therapy [6,7] . Despite this significant practice, the research on Hijamah in Saudi Arabia is limited. This study aims to provide public knowledge about Hijamah, attitudes, beliefs and impact on health-related quality of life in Riyadh, Saudi Arabia.

It is believed that Hijamah clears toxic, inflammatory, and allergenic substances from stagnant blood and interstitial fluids. Some studies concluded that it improves blood circulation, immunity and blood sugar levels. There is evidence regarding the effectiveness of Hijamah in treating pain conditions, however, there is minimal evidence when it comes to disease conditions, like stroke. A study showed that upon checking biochemical parameters, they found that Hijamah does help in treating factors like hypertension and hyperlipidemia, and this can have a great impact in improving and preventing future

disease conditions like repeated stroke attacks (1)(8). Hijamah cleared blood significant from causative pathological substances like serum ferritin which can result enhanced cell-mediated immunity [9].

Based on previous local studies, the Saudi population showed high interest in Hijamah [10,11]. A cross-sectional Saudi study showed that 37% of the participants plan on undergoing the Hijamah therapy again soon. Moreover, 73% of the participants reported that they would recommend it to relatives and friends [12]. However, there are no adequate studies in the Middle East on the effects and impact of Hijamah. This study intends to highlight the impact of Hijamah on health-related quality of life. Both physical and psychological quality of life measures would be included.

Based on a recent local study, 54% of participants did not inform their physicians about undergoing the Hijamah procedure [11]. This raises concern of whether or not patients feel comfortable when seeking medical advice regarding alternative therapies such as Hijamah. In order to provide better health care, patients' thoughts and perspectives should be considered and understood. The second objective is to determine whether or not patients prefer to inform their physicians about experiencing Hijamah, and to explore specific factors that may play a role in patients' choices.

Since Hijamah is usually practiced outside the healthcare setting, there is a concern in regard to the familiarity of the general population with the procedure's main contraindications. For the third objective, we hope to assess the individuals' knowledge of the contraindications and adverse effects. This may prompt a need to raise awareness and educate the public on the safe practice of Hijamah. As described by Madeleine Leninger, high-quality care should be culturally competent and respectful to the general population. In other words, cultural beliefs must be integrated and considered in order to improve patients' care [13,14]. Therefore, our secondary objective of this study is to highlight the society's most commonly accepted beliefs regarding Hijamah. Understanding these beliefs can significantly improve the rapport with patients, resulting in better communication. Moreover, these beliefs might guide future research and trigger unanswered questions.

Hijamah is an alternative healing therapy that is highly accepted in our society[2,3,5]. The aim of this study is to investigate the physical and psychological impact of Hijamah on health- related quality of life, and to determine any communication issues between patients and physicians when it comes to this complementary practice. Furthermore, this study would assess pa-

tients' beliefs, attitudes and knowledge of Hijamah.

Materials and Methods

This is an observational, cross-sectional study that entails the analysis of the data collected from a representative group of participants from July 2020 to March 2021. The study was conducted in multiple authorized Hijamah centers in Riyadh, the capital city of Saudi Arabia which had a population of around 7 million people. In order to have a representative result, the surveys were distributed in centers located in northern, southern, eastern, western and central regions of the city. (Appendix 1).

A total of 551 Saudi participants, both females and males, above age of 18 years, who were practicing Hijamah whether one-time practice or frequent practice and willing to take part in the survey were included in this study. Ethical approval from King Abdullah International Medical Research Center (KAIMRC) was obtained from the Institutional Review Board, Study Number RC20/380/R dated 12/07/2020 and informed written consent was taken from all study participants.

The data was collected through an online validated self-administered questionnaire. it was reviewed by 3 family medicine consultant at least for content validation. Double participant response was prevented by allowing participants to have only one response. This is checked by having the participants log into their e-mail accounts confirming they have not answered the questionnaire previously. The sampling technique used in this study was a convenient sampling technique in which all eligible participants were included. Using the website Raosoft, the sample size was estimated as 385 with 5% margin of error and a confidence interval of 95%. Included were any Saudi individuals, older than 18 years, both males and females, healthy and ill individuals, frequent practice and one-time practice to Hijamah center in Riyadh. Participants excluded from the study were those younger than 18 and Non-Saudis.

The questionnaire requested information about age, gender, educational level, as well as the participants' knowledge, attitude, and perceptions of cupping therapy. It also included questions on the impact of Hijamah on participants' physical activity, physical pain, sleep, mood and concentration. The study questionnaire was taken and modified from a study done in Saudi Arabia[11] . A pilot test was conducted to test for validity and reliability purposes of the survey and internal consistency was measured using Cronbach alpha which was = 0.81 for participant's beliefs and attitudes (Yes/No questions). Pilot participants gave feedback on clarity and appropriateness of

the questions and their comprehension. It was then administered formally to 551 participants to avoid a low response rate.

Descriptive statistics including percentages, means, and frequency distribution were used to describe all variables. Statistical Package for Social Sciences version 22.0 (SPSS Inc., Chicago,

IL, USA) was used for statistical computations. Chi-square test was used to assess the associations. A test with a P-value of less than 0.05 was considered significant.

Results

The present analysis included 551 participants. Females represented the majority of participants compared to males (86.7% vs 13.3%). The mean age was 43 ± 10 years. 70% of participants were university graduates, and 10% were higher education graduates. 55.2% were employed, 42% were unemployed and 2.5% were students. (Table 1)

Table 1: Demographic characteristics of participants attending Hijamah centers in Riyadh, Saudi Arabia

Gender	Male	73	13%
	Female	479	86%
Age	18-39	199	36.12%
	40-60	340	61.71%
	> 60	12	2.18%
Education	Primary school graduate	7	1%
	Elementary school graduate	18	3%
	High school graduate	82	14%
	University graduate	388	70%
	Higher education graduate	57	10%
Employment	Employed	305	55%
	Unemployed	233	42%
	Student	14	2%

The majority of participants agreed that Hijamah positively impacted their quality of life in relation to energy, physical pain, mood, concentration and sleep. (Table 2). Out of 551, 245 participants were diagnosed with diabetes mellitus. A percentage of 42.8% of diabetic patients reported an improvement in their disease whether clinically or through blood sugar levels. The improvement was significantly affected by age. Patients aged 18-39 years were more likely to agree compared to other age groups (ChiSq=0.0006, Pearson=0.0005).

While 43.4% believe that Hijamah is an effective alternative therapy, 18.7% do not believe in Hijamah effectiveness as an alternative therapy. Among those who believe in Hijamah effectiveness, personal experience was the most common reason for their belief (30.13%), followed by Islamic religious perspectives (25.05%), and relatives' or friends' experience (22.87%).

Table 2: Hijamah impact on Health-related quality of life and participant's educational Level

Question	Answer	Primary School Graduate	High School Graduate	University Graduates	Total	ChiSquare	Pearson
Improvement in energy level	Agree	23 (4.25)	62 (11.46)	312 (57.67)	397	0.07	0.17
	To some extent	2 (0.37)	19 (3.51)	97 (17.93)	118		
	Disagree	0 (0.00)	1 (0.18)	25 (4.62)	26		
Experiencing less physical pain (headache, back pain, joint pain)	Agree	19 (3.53)	49 (9.11)	276 (51.30)	344	0.03	0.03
	To some extent	2 (0.37)	16 (2.97)	113 (24.35)	131		
	Disagree	3 (0.56)	16 (2.97)	44 (8.18)	63		
Improvement in performing activities of daily living (Walking, bathing, house work)	Agree	21 (3.90)	57 (10.58)	292 (54.17)	370	0.23	0.31
	To some extent	2 (0.37)	18 (3.34)	95 (17.63)	115		
	Disagree	2 (0.37)	5 (0.93)	47 (8.72)	54		
Improvement in mood (fewer negative symptoms)	Agree	19 (3.53)	50 (9.29)	285 (52.97)	354	0.75	0.76
	To some extent	4 (0.74)	22 (4.09)	101 (18.77)	127		
	Disagree	2 (0.37)	9 (1.67)	46 (8.55)	57		
Improvement in concentration	Agree	16 (3.00)	53 (9.94)	245 (45.97)	314	0.20	0.24
	To some extent	4 (0.75)	21 (3.94)	118 (22.14)	143		
	Disagree	3 (0.56)	6 (1.13)	67 (12.57)	76		
Improvement in sleep	Agree	21 (3.93)	55 (10.30)	290 (54.31)	366	0.04	0.07
	To some extent	3 (0.56)	20 (3.75)	82 (15.36)	105		
	Disagree	1 (0.19)	4 (0.75)	58 (10.86)	63		

Educational level and age significantly affect participants' beliefs in Hijamah. High school graduates tend to believe more in the effectiveness of Hijamah compared to primary school and university graduates (Chi-Square: 0.0238, Pearson: 0.0262). Moreover, older participants are more likely to believe that Hijamah is an effective alternative therapy compared to other age groups. More than half of the study sub-

jects (55.54%) think that males need Hijamah more than females, as females undergo monthly menses. Similarly, 68.1% believe that women should use Hijamah post-menopause. Females tend to agree more with these beliefs compared to males. (Chi-square: <0001, Pearson: <.001. Chi-square: 0.0090, Pearson: 0.0051). (Table 3)

Table 3: Correlation between participant beliefs and other Demographics

Question	Answer	18-39	40-60	> 60	P-Value	Primary School Graduates	High School Graduates	University Graduates	P-Value
Do you believe in Hijamah as an effective alternative therapy?	Yes	107 (19.42)	131 (23.77)	1 (0.18)	Chi= 0.0006 P= 0.0005	9 (1.63)	45 (8.15)	186 (33.70)	Chi= 0.0238 P= 0.0262
	No	27 (4.90)	74 (13.43)	2 (0.36)		6 (1.09)	9 (1.63)	88 (15.94)	
	Sometimes	25 (4.54)	59 (10.71)	2 (0.36)		7 (1.27)	16 (2.90)	63 (11.41)	
	I don't know	40 (7.26)	76 (13.79)	7 (1.27)		3 (0.54)	12 (2.17)	108 (19.57)	
Do you think that males need Hijamah more than females because of the menstrual cycle?	Yes	103 (18.69)	200 (36.30)	3 (0.54)	Chi= 0.156 P= 0.126	18 (3.26)	48 (8.70)	241 (43.66)	Chi= 0.5070 P= 0.5941
	No	23 (4.17)	32 (5.81)	2 (0.36)		2 (0.36)	9 (1.63)	46 (8.33)	
	Sometimes	28 (5.08)	36 (6.53)	1 (0.18)		3 (0.54)	8 (1.45)	54 (9.78)	
	I don't know	45 (8.17)	72 (13.07)	6 (1.09)		2 (0.36)	17 (3.08)	104 (18.84)	
Do you think that the blood from Hijamah is "bad"?	Yes	48 (8.71)	63 (11.43)	0	Chi= 0.0246 P= 0.0559	7 (1.27)	18 (3.26)	87 (15.76)	Chi= 0.6180 P= 0.6731
	No	45 (8.17)	53 (9.62)	2 (0.36)		2 (0.36)	17 (3.08)	81 (14.67)	
	Sometimes	28 (5.08)	56 (10.16)	2 (0.36)		4 (0.72)	9 (1.63)	73 (13.22)	
	I don't know	78 (14.16)	16 (30.49)	8 (1.45)		12 (2.17)	38 (6.88)	204 (36.96)	
Do you think that Hijamah can help quit smoking?	Yes	59 (10.71)	87 (15.79)	2 (0.36)	Chi= 0.1393 P= 0.1501	11 (1.99)	25 (4.53)	112 (20.29)	Chi = 0.1263 P= 0.2063
	No	52 (9.44)	67 (12.16)	3 (0.54)		1 (0.18)	17 (3.08)	104 (18.84)	
	Sometimes	40 (7.26)	64 (11.62	3 (0.54)		5 (1.91)	13 (2.36)	90 (16.30)	
	I don't know	48 (8.71)	122 (22.14)	4 (0.73)		8 (1.45)	27 (4.89)	139 (25.18)	
Do you think Hijamah can treat psychological illnesses	Yes	51 (9.26)	71 (12.89)	2 (0.36)	Chi= 0.2742 P= 0.2706	11 (1.99)	21 (3.80)	92 (16.67)	Chi= 0.0280 P= 0.0253
	No	48 (8.71)	59 (10.71)	2 (0.36)		2 (0.36)	10 (1.81)	98 (17.75)	
	Sometimes	32 (5.81)	68 (12.34)	3 (0.54)		4 (0.72)	12 (2.17)	87 (15.76)	
	I don't know	68 (12.34)	142 (25.77)	5 (0.91)		8 (1.45)	39 (7.07)	168 (30.43)	
Do you think Hijamah can treat neurological illnesses? (epilepsy, stroke)	Yes	121 (21.96)	180 (32.67)	3 (0.54)	Chi= 0.0714 P= 0.0777	17 (3.08)	49 (8.88)	238 (43.12)	Chi= 0.1437 P= 0.2248
	No	28 (5.26)	40 (7.26)	3 (0.54)		2 (0.36)	4 (0.72)	67 (12.14)	
	Sometimes	31 (5.63)	78 (14.16)	4 (0.73)		4 (0.72)	18 (3.26)	91 (16.49)	
	I don't know	18 (3.27)	42 (7.62)	2 (0.36)		2 (0.36)	11 (1.99)	49 (8.88)	

17.42% of participants think that Hijamah can treat drug addiction, and 26.86% believe that it can help in smoking cessation (P= 0.1501). Females tend to believe more in the effect of Hijamah on drug addiction and smoking cessation compared to males (Chi-square: 0.032, Pearson: 0.0211, Chi-square:0.0024, Pearson: 0.0050). Moreover, 22.5% believe that Hijamah can be used to treat psychological illnesses. Primary school graduates are more likely to agree with that belief compared to other groups. (Chi-square= 0.0280, Pearson= 0.0253). More than half of the study sub-

jects (55.1%) think that Hijamah can treat neurological diseases such as epilepsy or stroke (P= 0.0777).

It was shown that 57.53% of participants did Hijamah for therapeutic reasons, 23.41% for (Islamic) religious practices, 17.97% as prophylactic, and 1.09% due to request by a physician. The majority of those who did it for therapeutic purposes chose fatigue as their reason (69.6%), followed by headache\migraine and sleep disorders (59.8%, 42.4%). (Figure 1)

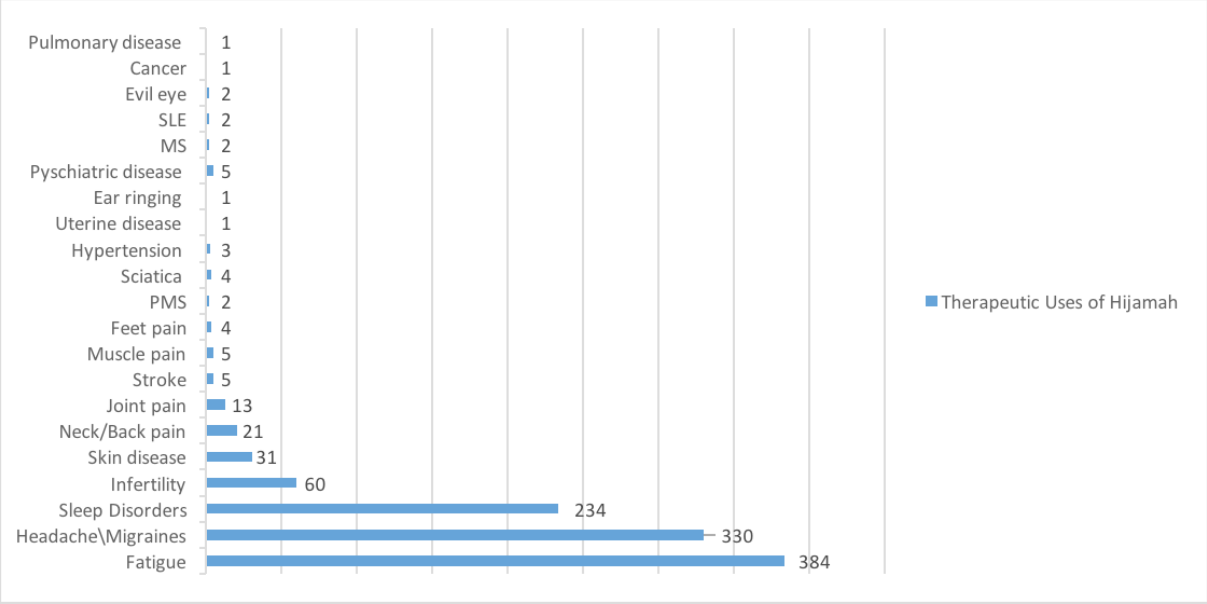


Figure 1: Participant therapeutic purposes of doing Hijamah

More than half of the study subjects, 57.7% got Hijamah therapy at an authorized center, 37.57% of the subjects contacted a cupping therapist at home, 3.09% sought a popular therapist, and 1.63% went to a non-authorized center. When asked about how frequently should people get Hijamah therapy, 42.91% chose "once per year", followed by 38.2% who chose "every 6 months", 15.27% chose "every 3 months", and 3.6% chose "every month".

Almost all study participants (92.4%) would recommend Hijamah therapy to relatives and friends. Out of 315 participants who had Hijamah in authorized centers, 92.5% would recommend Hijamah for their relatives and friends, whereas 66.67% of those who had Hijamah in non-authorized centers would recommend it to others. The association between the place where Hijamah was practiced and the participant's tendency to recommend it to others or not is significant (Pearson: 0.02).

65.9% of participants reported that they would inform their physicians prior to undergoing Hijamah therapy, while 26.46% said that they would not. When asked about reasons behind concealing Hi-

jamah from their physician, 24.28% of the participants felt that there was no need for medical consultation before going through the procedure, 7.61% reported that their physician does not trust in Hijamah, 2.9% were afraid that their physician would stop them, and 1.27% were afraid their physician would judge them. When asked if they think physicians believe and trust in Hijamah, 46.28% of participants chose "I don't know", 28.31% chose "yes", 25.41% chose "no". Majority of participants (82.35%) who think that physicians believe in Hijamah said that they would inform their physicians before undergoing Hijamah, while only half (51.43%) of participants who think that physicians do not trust in Hijamah reported that they would inform their physicians. (chi sq <.0001, Pearson <.0001).

Discussion

Hijamah has long been practiced in Muslim societies as an alternative therapy [1,2].. Hijamah has also been used to improve physical and mental well-being [3 15].

The majority of participants were middle age adults with a mean age of 43 ± 10 years. In M. Al-Yousef et al study, most of the respondents (38%) were aged from 46-60 years [11] . In other local studies, most participants were from the age group of 21-30 and 31-40 years [2 1,6]. This might suggest a broad range of age among Hijamah users in Saudi Arabia.

Furthermore,70% of participants were university graduates, and only 0.04% of participants were with less than high-school education. This finding is consistent with several prior studies [16, 7] As per Al-luhaidan K. and Prarthana M. only 8% of the study population was illiterate [16].This suggests that Hijamah is a traditional therapy that is highly accepted by people with a good educational background. According to Khalil M. et al. Hijamah is common among both males and females with a broader range of age [2].

The majority of participants agreed that Hijamah positively impacted their quality of life in relation to energy, physical pain, mood, concentration and sleep. This finding is supported by several prior studies that were conducted in different regions of Saudi Arabia [11 16 17].

Furthermore, the current study shows that majority stated that Hijamah was used therapeutically mainly for fatigue and headache. A study done in Jeddah, they reported that musculoskeletal issues and headaches are the most common reasons for seeking alternative medicine therapeutically [18]. Similarly, another study by Ahmadi et al. showed that headache severity decreased by 66% after wet-cupping therapy [19].

According to Kaleem et al, there was a statistically significant difference between the level of pain and range of motion for patients with anterior knee pain before and after Hijamah [20].

A percentage of 42.8% of diabetic participants reported an improvement of their disease whether clinically or through blood sugar levels after Hijamah. In a randomized controlled trial, Hijamah significantly reduced cholesterol, triglyceride, fasting blood sugar, ferritin, urea, and creatinine [21]. In accordance with these findings, Husain et al, reported significantly reduced fasting blood sugar, serum urea, and serum creatinine at one, three, and four months compared with baseline values [22].

In the current study, 23.4 % underwent Hijamah therapy for religious purposes. In a previous study conducted in the north of Saudi Arabia, the most common cause of Hijamah practice was religious beliefs [12]. Hijamah is performed therapeutically as advised by the prophet of Islam "Muhammad." This justifies the common use of Hijamah in Saudi Arabia.

This study also showed that older participants were more likely to believe that Hijamah is an effective alternative therapy compared to other age groups. As opposed to other study done in Makkah which showed that age does not significantly affect the participants' attitude towards cupping therapy [17].

In this study, the majority of participants underwent Hijamah in authorized centers. As per Mujtaba, and Al-Balawi et al, almost all the study subjects (96%, 49%) would select an authorized center respectively [12] [10].

After establishing the National Center for Complementary and Alternative Medicine (NCCAM, MOH) in Saudi Arabia, regulations regarding Hijamah therapy, practitioners, centers, and equipment have been issued. Since safety is the main concern, the implementation of such regulations and provision of such authorized centers is particularly vital in Saudi Arabia[1].

When it comes to communication with physicians, most of our participants (65.9%) stated that they would report doing Hijamah to their physicians. Patient communication highly relies on the individual's trust in the physician. A previous study concluded that the lower the trust in physicians and health care, the more inclined the patients are to rely on or use alternative medicine, especially those who are chronically ill. This stresses the importance of physicians' knowledge on alternative medicine [23].

Majority of our participants either didn't know if their physicians believed in Hijamah or were adamant that their doc-

tors didn't trust in the procedure. A study by Albedah A. et al. They concluded that his distrust might be due to the insufficient research and evidence on alternative medicine practices [1]. Physicians should be more aware and knowledgeable regarding such topics, and they should encourage communicating with patients about alternative medicine practices, especially since such prophetic medicine is widely practiced in this region.

Conclusion

Hijamah is an alternative healing therapy that is highly accepted in Muslim societies. This study shows that Hijamah might improve health-related quality of life and might be used to treat or prevent chronic illnesses. The mechanisms behind these biological and psychosocial benefits are not investigated enough to formulate an evidence-based knowledge about Hijamah. Further future research is needed to understand the biological effects of Hijamah, and to truly assess the impact of Hijamah on health-related quality of life. In order to establish effective communication with patients, health care providers should be more knowledgeable regarding alternative medicine. Thus, inclusion of alternative medicine in health sciences and medical books, courses, and curriculum is important.

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