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Original Research

Knowledge, Attitudes and Practices Regarding the use of Traditional and Complementary Medical Practices by Patients with Ischemic Heart Disease in Oman

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Abstract

Background: The use of traditional and complementary medicine is increasing worldwide. This study aims to assess the knowledge, attitudes and practices regarding the use of traditional medicine (TM) by patients with ischemic heart disease (IHD) in Oman.

Methodology: This was a cross-sectional study based on a previously validated questionnaire conducted among patients attending a Cardiology outpatients' clinic.

Results: There were 103(mean age 45.1+13.4 years; 85 or 82.5% male) responses to the questionnaire of which 70(67.9%) had previously used at least one form of TM. Those who had used TM were older (48.1+13.4yrs vs 41.2+10.9 years; p=0.01). However, there was no difference between the gender, educational status or occupation between the two groups. Cupping was the most common (58 out of 70 or 82.8%) followed by herbal medications (52 or 74.2%) and branding (47 or 67.1%), TM was used mainly for non-cardiac indications such as headache (47 or 67.1%), back pain (42 or 60%), abdominal pain (41 or 58.5%) and only 30 (42.8%) using it for chest pains. Majority of those who had used (65 out of 70 or 92.8%) said that they felt it was effective and 58 (82.8%) said that they would try it again. However, only 21.4% said that they would recommend it to others.

Conclusion: Our study demonstrates that there is widespread use of TM practices among patients with IHD in Oman and their use should be monitored due to the potential for interactions with regular medications and side effects.

Keywords: Ischemic Heart Disease; Traditional Medicine; Massage Therapy; Cardiovascular Disease; Oman

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Quick Response Code:

Introduction

Cardiovascular diseases (CVD) are a major cause of morbidity and mortality worldwide. An estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths[1].CVD include strokes and ischemic heart disease (IHD), the latter being characterized by chest pains (angina pectoris] and heart attacks. In Oman, IHD is a leading cause of mortality and morbidity accounting for around 35% of all deaths in 2020[2].

As with all chronic conditions, patients with IHD tend to look for alternative therapies when contemporary modern medicine fails to cure the condition. There is currently considerable interest in these forms of alternate therapies. These include practices such as meditation, massage, herbal medications, acupuncture etc. These practices are often referred to as "complementary" or "alternate" medical practices and broadly refer to medical and traditional practices that are not part of mainstream medical care, but are taken alongside (complementary) or instead of (alternative) it[3].Traditional medicine (TM) on the other hand has been defined by the WHO as health practices, approach, knowledge, and beliefs incorporating plant, animal, and mineral based medicines, spiritual therapies, manual techniques, and exercises applied singularly or in combination to treat, diagnose, and prevent illness or maintain wellbeing [4].

Traditional medical practices are often indigenous to a particular country or community, often passed down through generations, such as the Indian ayurvedic system and the Chinese traditional medical practices. The use of traditional, complementary and alternative health practices are not restricted to only developing countries with limited access to modern medical facilities but is used extensively worldwide. The WHO estimates that around 70-80% of the world's population use some form of TM or complementary practices[5].

Given the abundance of herbal plants and its varied topography and history, Oman has a rich heritage of its own traditional practices[5-8].Besides familiar practices such as traditional massage, and herbal medications, some of the practices such as branding (wasam) and cupping are unique to this part of the world. Cupping therapy (also known as Hijama in Oman) is common in Asia and the Middle-east and growing in popularity in the west. It involves the creation of a vacuum under a glass or plastic cup at the area of treatment. It may then involve either suction of blood via a small incision (wet- cupping) or just the application of suction (dry cupping)[9]. Branding or Wasam as it is called in Oman, involves the application of a hot metal object to the area of interest and causing a third degree burn, which is thought to be a counter irritant to the original disease [10].

The aim of this study is to assess the knowledge, attitudes, and practices among Omani patients with IHD towards the use of traditional and complementary medical practices. We also sought to find out the factors such as demographics, educational status and age, that affect the utilisation of these practices.

Methods:

This was a cross-sectional questionnaire-based study conducted among patients with IHD in Muscat, Oman. The study was conducted between March 2020 and February 2021. All adults above the age of 18, who had a previous documented history of IHD (either stable angina or previous acute coronary syndrome) were eligible to take part in the study. We excluded those under the age of 18 and those not willing to participate. We also excluded those who had admission with acute coronary syndrome during the preceding 12 months. Patients were recruited from those visiting the hospital for outpatient appointments. The rationale and reason for conducting the study were explained to the participants and they signed a consent statement on the questionnaire. However, due to the COVID pandemic at the time of the study, where virtual consultations were held, patients responded by online questionnaire. For the electronic questionnaire a tick box had to be ticked to state that they have read the rationale for the study and understood it and consented to taking part.

The questionnaire was developed in house and used and validated previously[11].Briefly, it consisted of 21 items in two sections. The first part comprised of the demographic data of the participants and consisted of five questions. The second part of the questionnaire (16 items) collected data about the participants' knowledge, attitudes and practices with regard to the traditional medical practices.

Ethical approval was granted by the medical research ethics committee at our University (Approval number 2309). The data were analyzed using SPSS version 21 software. All data are described as either percentages or mean+ standard deviation or median (interquartile range). Students t test or non-parametric tests were used depending on whether the data was normally distributed or not. The p value of <0.05 was significant.

Results:

One hundred and fifty patients' consecutive patients with IHD who attended the clinic were identified. Of these 15 had an episode of acute coronary syndrome within the previous 12 months and were excluded, while a further 26 did not consent to take part. Six questionnaires were not complete and deemed unsuitable for inclusion in the study. The remaining103 respondents (mean age 45+13 years; 85 (82.5%) male) answered the questionnaires completely and were included in the final analysis. Out of these 70 (67.9%) had used at least one form of TM previously. Table 1 gives the breakdown of the demographic features of the two groups. Those who had used TM were older (48.1+13.4yrs vs 41.2+10.9 years; p=0.01). However, there was no difference between the gender, educational status or occupation between the two groups.

Table 1 Demographic features of the respondents

	Never used TM (n=33)	Used TM (n=70)	P value
Age (years)	41.2±10.9	48.1±13.4	0.01
Gender			
Male	25(75.7%)	60(85.7%)	0.2
Female	8(24.3%)	10(14.3%)	
Diabetic	23(69.7%)	47(67.1%)	0.79
Hypertensive	15(45.4%)	36(51.4%)	0.5
Employment			
Student	1(3.0%)	0	
Full time employed	10 (30.3%)	21(30%)	
Retired/Unemployed	15(45.4%)	49(70%)	0.34
Educational status			
Less than secondary school	2 (6.1%)	13(18.5%)	
Completed secondary school			
Diploma or higher	16(48.4%)	36(51.5%)	

	15(45.4%)	21(30%)	0.13
Are you aware of			
Wasam	32(96.9%)	66(94.2%)	
Cupping	22(66.6%)	49(70%)	
Herbal	30(90.9%)	62(88.5%)	
Acupuncture	17(51.5%)	28(40%)	
Massage	22(66.6%)	49(70%)	0.7

Of those who had used TM, Cupping was the most common (58 out of 70 or 82.8%) followed by herbal medications (52 or 74.2%), Wassam (47 or 67.1%), traditional massage (45 or 64.2%) and finally acupuncture (14 or 20%). However, not everyone who used TM did so for chest pain. TM was used mainly for headaches (47 or 67.1%), back pain (42 or 60%), abdominal pain (41 or 58.5%) and only 30 (42.8%) using it for chest pains.

Table 2 summarises the attitudes of those who used TM regarding its efficacy. Majority of those who had used (65 out of 70 or 92.8%) said that they felt it was effective and 58 (82.8%) said that they would try it again. Forty-one (58.5%) had used it along with modern medications, while 4(5.7%) had experienced some form of side effects due to its use. However, only 15 (21.4%) said that they would recommend it to others.

Table 2: Attitudes of those who have used traditional medicine

	Number	Percentages
Do you feel traditional medicine is effective?	65	92.8%
Do you think it is better than modern medicine?	13	18.5%
Did you try it for Hypertension (n=36)	23	63.8%
Did you try it for reducing blood sugar (n=47)	20	42.5%

For those who had tried it (n=374)		
Was it useful?	65	92.8%
Did you have any side effects?	4	5.7%
Will you try it again in future	58	82.8%
Did you use it alongside modern medications	41	58.5%
Would you recommend its use	15	21.4%
What other condition did you use it for		
Headache	47	67.1%
Abdominal pain	41	58.5%
Chest pain	30	42.8%
Back pain	42	60%
Nerve pain	28	40%
Others	42	60%

Table 3 summarises the attitudes of those who had not tried TM. Of these, 11(33.3%) said that they did not think it was effective, 12 (36.3%) felt they did not know enough to use it and 7 (21.2%) felt it was too expensive. However, 24 (72.7%) were willing to try it for the first time. Despite not using any of the forms of TM, most people were aware of Wasam(96.9%), herbal medications(90.9%), massage (66.6%) and cupping(66.6%), while only around half (51.5%) said they were aware of acupuncture.

Table 3: Attitudes of those who have not used any traditional medicine practices

	Number	Percentages
Not effective	11	33%
Don't know where available	2	6.0%
Expensive	5	15.1%
Don't know enough of it	12	36.3%
No specific reason	7	21.2%

Discussion:

Traditional practices have been used for centuries in many countries and continue to be used widely. With increased wariness towards artificial chemical substances, there is trend to go "organic" and an increased interest to "go back to nature". The market for organic foods has grown exponentially over the last few decades[12]. Similarly in the health care industry, there is now a renewed interest in traditional and complementary practices worldwide [13, 14] with the global market for complementary medicines estimated to rise to more than 400 billion US dollars in 2028[15].

Our study confirms that TM practices continue to be used commonly by patients with IHD in Oman, even alongside modern medicines. The proportion of people who had used some form of TM in our study is similar to that reported in other countries such as Ethiopia[16], Nigeria[17], Ghana[18], India[19] and China[20]. Surprisingly, cupping was the most common method used by our patients as opposed to herbal which was the most common in other studies[21-23].Cupping has been used in trials for many conditions such as back pain[9], neck pain[24], migraine[25], hypertension[26] and chronic obstructive pulmonary disease[27]with varying results.

The next common method was herbal medications, which is often the most commonly used form of TM in Oman[11]. These are widely used for various ailments as they are readily available, well tolerated and generally considered to be natural, organic and free from chemicals and preservatives. Studies have demonstrated the widespread use of herbal medications among patients with IHD [28]. The form of herbal medications used can vary from country to country and indeed region to region, often based on traditional practices and availability of local plants and herbs. Omani herbal medications often contain honey and rose water which are plentiful in the local mountains, along with leaves sap and resin of plants found in these hills[8, 9]. Frankincense is another common ingredient in many Omani herbal preparations mainly due to its abundance in the south of the country. It is used commonly as an incense and for its medicinal properties which been described for centuries[29].

Branding was surprisingly the third most common form of TM use among our patients. Although this is dangerous and potentially harmful, it is widely practiced in many countries in the Middle-east and known by different names such as "Wassam" in Oman, "Guboow" in Somalia, "kaiy" in Libya etc[[10].Despite its popularity, there have been many case reports of complications related to branding[8, 30].Traditional Massage therapy is commonly used in many parts of the world and is readily available and safe[31]. There are various studies explaining the potential mechanisms of benefit on pain, mood and lowering blood pressure[32, 33]. This was the fourth most common form of TM practice among our patients.

Acupuncture was the least common of the TM utilised in our study. It is a Chinese TM practice that is gradually gaining popularity in other countries[34]. It involves modulating pain sensations by placing needles in special locations. Lack of knowledge, and perceived pain during the procedure might be the reasons for its unpopularity[35]. However, interestingly, pain did not preclude other "painful" practices such as branding and cupping from being popular, which could reflect familiarity with the latter procedures.

The various TM modalities were used mainly by the older patients, reflecting differing perceptions by the older and younger patients. Education and occupational status did not differ among those who had used or had not used TM practices. This could reflect the fact that this study was on patients with IHD who would be of a similar age group.

Interestingly, a large proportion of patients use TM alongside modern prescription medications. It is important to bear this in mind when physicians assess patients due to the potential for interactions. For example, medications that contain extracts of garlic, ginkoa, evening primrose can increase the bleeding risk associated with antiplatelet agents like aspirin or clopidogrel. On the other hand, Ginseng can lower

the efficacy of warfarin.[36] Besides these, there is also the potential for interactions that are not yet described

This study was performed in a tertiary hospital in Muscat, Oman, which is in an urban area. It does not truly reflect the use of TM practices in other parts of the country, especially in the rural areas where attitudes to TM might be different, based on availability of the various modalities and accessibility to modern healthcare might be different. Whilst our questionnaire explored the use of TM, we did not investigate in detail the reasons for its popularity and why those who used it, did so. Another potential limitation would be recalling bias, as this questionnaire was based on patients recall. Recruitment bias could also have crept in, where patients who were followed up virtually but were not adept at filling in the online questionnaire, would not have taken part. This could potentially have been an older cohort of patients who use more TM than the younger technologically savvy patients who do not use much TM. Despite these limitations, this is the first study to assess the attitudes of the Omani patients with IHD regarding traditional medical practices.

Conclusion

There is widespread use of various TM among patients with IHD in Oman, although most of these are not for the IHD itself. More needs to be done to learn and understand these practices so that they can be integrated into regular medical practice in a safe manner.

References:

1. *Cardiovascular diseases*. 2022 [cited 2024 11/10/2024]; Available from: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds). Accessed on 10 July 10, 2025
2. *Coronary heart disease in Oman*. 2022 [cited 2024 11/10/2024]; Available from: https://www.worldlifeexpectancy.com/oman-coronary-heart-disease.Accessed on 10 July 10, 2025
3. *What is complemantary medicine*. 2022 [cited 2024 11/10/2024]; Available from: https://www.nccih.nih.gov/health/complemantary-alternative-or-integrative-health-whats-in-a-name.Accessed on 10 July 10, 2025
4. *Traditional medicine: Definitions*. 2021 [cited 2024 11/10/2024]; Available from: https://www.who.int/traditional-complementary-integrative-medicine/en/.Accessed on 10 July 10, 2025
5. *WHO: traditional medicine strategy 2014-2023*. 2021 [cited 2024 11/10/2024]; Available from: https;//www.who.int/medicines/publications/traditional/tm_strategy14_23/en/.Accessed on 10 July 10, 2025
6. Azaizeh H, Saad B, Cooper E, Said O. Traditional Arabic and Islamic Medicine, a Re-emerging Health Aid. Evid Based Complement Alternat Med. 2010 Dec;7(4):419-24. doi: 10.1093/ecam/nen039.
7. Divakar MC, Al-Siyabi A, Varghese SS, Rubaie MA. The Practice of Ethnomedicine in the Northern and Southern Provinces of Oman. Oman Med J. 2016 Jul;31(4):245-52. doi: 10.5001/omj.2016.49.
8. Shenoy R, Bialasiewicz A, Khandekar R, Al Barwani B, Al Belushi H. Traditional medicine in oman: its role in ophthalmology. Middle East Afr J Ophthalmol. 2009 Apr;16(2):92-6.

9. Moura CC, Chaves ÉCL, Cardoso ACLR, Nogueira DA, Corrêa HP, Chianca TCM. Cupping therapy and chronic back pain: systematic review and meta-analysis. Rev Lat Am Enfermagem. 2018 Nov 14;26:e3094. doi: 10.1590/1518-8345.2888.3094.
10. Ghazanfar SA. Wasm: a traditional method of healing by cauterisation. J Ethnopharmacol. 1995 Jul 28;47(3):125-8. doi: 10.1016/0378-8741(95)01270-n.
11. Al-Riyami H, Al-Maskari A, Nadar SK, Almaskari M. Knowledge, Attitudes and Practices Regarding Traditional and Complimentary Medicine in Oman. Sultan Qaboos Univ Med J. 2023 Feb;23(1):90-98. doi: 10.18295/squmj.1.2022.007.
12. *Growth in Organic food market*. 2022 [cited 2024 11/10/2024]; Available from: https://www.cnbc.com/2021/09/22/organic-food-sales-surged-in-2020-higher-demand-and-cheaper-costs.html.Accessed on 10 July 10, 2025
13. *The state of the nutritional supplements market*. 2021 [cited 2024 11/10/2024]; Available from: http://www.forbes.com/sites/davidlariviere/2013/04/19/nutritional-supplements-flexingtheir-muscles-as-growth-industry/.Accessed on 10 July 10, 2025
14. *WHO global report on traditional complimentary and integrative medicine 2019*. 2021 [cited 2024 11/10/2024]; Available from: http://who.int/traditional-complementary-integrative-medicine/WhoGlobalReportOnTraditionalAndComplementaryMedicine2019.pdf.Accessed on 10 July 10, 2025
15. *Complementary and Alternative medicines market report*. 2021 [cited 2024 11/10/2024]; Available from: http:www.grandviewresearch.com/industry-analysis/complementary-alternative-medicine-market.Accessed on 10 July 10, 2025
16. Wassie SM, Aragie LL, Taye BW, Mekonnen LB. Knowledge, Attitude, and Utilization of Traditional Medicine among the Communities of Merawi Town, Northwest Ethiopia: A Cross-Sectional Study. Evid Based Complement Alternat Med. 2015;2015:138073. doi: 10.1155/2015/138073.
17. Aina O, Gautam L, Simkhada P, Hall S. Prevalence, determinants and knowledge about herbal medicine and non-hospital utilisation in southwest Nigeria: a cross-sectional study. BMJ Open. 2020 Sep 10;10(9):e040769. doi: 10.1136/bmjopen-2020-040769.
18. Sato A. Revealing the popularity of traditional medicine in light of multiple recourses and outcome measurements from a user's perspective in Ghana. Health Policy Plan. 2012 Dec;27(8):625-37. doi: 10.1093/heapol/czs010.
19. Angmo K, Adhikari BS, Rawat GS. Changing aspects of traditional healthcare system in western Ladakh, India. J Ethnopharmacol. 2012 Sep 28;143(2):621-30. doi: 10.1016/j.jep.2012.07.017.
20. Xin B, Mu S, Tan T, Yeung A, Gu D, Feng Q. Belief in and use of traditional Chinese medicine in Shanghai older adults: a cross-sectional study. BMC Complement Med Ther. 2020 Apr 28;20(1):128. doi: 10.1186/s12906-020-02910-x.
21. Jazieh AR, Al Sudairy R, Abulkhair O, Alaskar A, Al Safi F, Sheblaq N, Young S, Issa M, Tamim H. Use of complementary and alternative medicine by patients with cancer in Saudi Arabia. J Altern Complement Med. 2012 Nov;18(11):1045-9. doi: 10.1089/acm.2011.0266.
22. Peltzer K. Utilization and practice of traditional/complementary/alternative medicine (TM/CAM) in South Africa. Afr J Tradit Complement Altern Med. 2009 Mar 7;6(2):175-85.
23. Posadzki P, Watson LK, Alotaibi A, Ernst E. Prevalence of use of complementary and alternative medicine (CAM) by patients/consumers in the UK: systematic review of surveys. Clin Med (Lond). 2013 Apr;13(2):126-31. doi: 10.7861/clinmedicine.13-2-126.

24. Kim S, Lee SH, Kim MR, Kim EJ, Hwang DS, Lee J, Shin JS, Ha IH, Lee YJ. Is cupping therapy effective in patients with neck pain? A systematic review and meta-analysis. BMJ Open. 2018 Nov 5;8(11):e021070. doi: 10.1136/bmjopen-2017-021070.
25. Kaki A, Sawsan R, Samiha M, Al Jaouni S, Elalah MA, Ibrahim N. Wet Cupping Reduces Pain and Improves Health-related Quality of Life Among Patients with Migraine: A Prospective Observational Study. Oman Med J. 2019 Mar;34(2):105-109. doi: 10.5001/omj.2019.21.
26. Aleyeidi NA, Aseri KS, Matbouli SM, Sulaiamani AA, Kobeisy SA. Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial. J Integr Med. 2015 Nov;13(6):391-9. doi: 10.1016/S2095-4964(15)60197-2.
27. HekmatpouD, Moeini l, Haji-Nadali S. *The effectiveness of wet cupping vs venesection on arterial O2 saturation levels of cigarette smokers: A randomized controlled clinical trial.* Pak J Med Sci, 2013. **29**(6): p. 1349-53.
28. Shaito A, Thuan DTB, Phu HT, Nguyen THD, Hasan H, Halabi S,et al. Herbal Medicine for Cardiovascular Diseases: Efficacy, Mechanisms, and Safety. Front Pharmacol. 2020 Apr 7;11:422. doi: 10.3389/fphar.2020.00422.
29. Al-Yasiry A, Kiczorowska B. *Rankincense- therapeutic properties.* Postepy Hig Med Sosw2016. **70**: 380-91.
30. Raza S, Mahmood K, Hakeem A, Polsky S, Haemel A, Rai S, Ali Baig M. Adverse clinical sequelae after skin branding: a case series. J Med Case Rep. 2009 Jan 23;3:25. doi: 10.1186/1752-1947-3-25.
31. Perlman A, Fogerite SG, Glass O, Bechard E, Ali A, Njike VY, et al. Efficacy and Safety of Massage for Osteoarthritis of the Knee: a Randomized Clinical Trial. J Gen Intern Med. 2019 Mar;34(3):379-386. doi: 10.1007/s11606-018-4763-5.
32. Nelson NL. *Massage therapy: understanding the mechanisms of action on blood pressure. A scoping review.* J Am Soc Hypertens, 2015;**9**(10):785-793.
33. WeerapongP, Hume P, Kolt G. *The mechanisms of massage and effects on performance, muscle recovery and injury prevention.* Sports Med, 2005;**35**(3): 235-56.
34. HaoJ, Mittleman M. *Acupuncture: past, present, and future.* Global Adv Health Med2014;**3**(4):6-8.
35. Deng S, Zhao X, DU R, He SI, Wen Y, Huang L, et al. Is acupuncture no more than a placebo? Extensive discussion required about possible bias. Exp Ther Med. 2015 Oct;10(4):1247-1252. doi: 10.3892/etm.2015.2653.
36 Fasinu PS, Bouic PJ, Rosenkranz B. An overview of the evidence and mechanisms of herb-drug interactions. Front Pharmacol 2012; 3:1-19.