#01/2025
ISSN 2299-1247

JHPOR | Journal of Health Policy & Outcomes Research

The Practice of Traditional Medicine and Associated Factors in Northwest Syria: A Cross-sectional study

DOI:10.7365/JHPOR.2025.1.2

Authors:

Fahad Ahmed[1]
orcid.org/0000000193374308

Kassem Ballout[2]
orcid.org/0000-0003-3373-2489

Hassan Eldervis[3]

Abdullah Charaf Eddin[4]

Saba Tariq[5]

Nimetcan Mehmet[6]

Salih Mollahaliloglu[7]

1 - Department of Public Health, Faculty of Medicine İstinye University Turkey
2 - Health Policy and Global Health Department, Public Health Institute, Ankara Yildirim Beyazit University
3 - Medical doctor & Team leader, Doctors of the World - Turkey (MDM-T) Afrin, Syria
4 - Senior Health Field Officer Medical Relif For Syria Idlib, Syria
5 - Pharmacology and Therapeutics, University Medical and Dental College. The University of Faisalabad, Pakistan
6 - Department of Public Health, Faculty Of Medicine Ankara Yıldırım Beyazıt University Ankara, Turkey
7 - Department of Traditional, Complementary and Integrative Medicine and Department of Public Health, Ankara Yıldırım Beyazıt University Ankara, Turkey

Keywords:

Traditional medicine, Alternative medicine, Complementary medicine, Syrian refugees, Northwest Syria, Syrian conflict

How to cite this article?
Ahmed F., Ballout K., Eldervis H., Eddin A., Tariq S., Mehmet N., Mollahaliloglu S., The Practice of Traditional Medicine and Associated Factors in Northwest Syria: A Cross-sectional study J Health Policy Outcomes Res [Internet]. 2025[cited YYYY Mon DD];. Available from: https://jhpor.com/article/2352-the-practice-of-traditional-medicine-and-associated-factors-in-northwest-syria-a-cross-sectional-study

contributed: 2023-09-20
final review: 2025-01-03
published: 2025-01-21

Corresponding author: Fahad Ahmed drfahadahmed@yahoo.com

Abstract

Introduction

With twelve years of conflict, the population in Northwestern region of Syria continues to face challenges in accessing healthcare; including exorbitant costs of services, limited availability of medicines, shortage of professionals. This region also stands as a significant hub of biodiversity and holds a prominent position in adoption of traditional medicine (TM) by the population for centuries. This study aims to shed light on the utilization of TM, reasons behind its use, and underlying factors contributing to its use.

Methods

Community-based cross-sectional study was conducted in Northwest Syria. Questionnaire that encompassed sociodemographic characteristics of the participants and their history of traditional medicine use was employed. Face-to-face interviews took place from October to December, 2022.

Results

A total of 1699 people participated in the study, of them 1174 (69.0%) reported using or having used traditional medicine within the past year. The most common method of TM was use of herbs followed by Hajama. The use of TM was 82% higher among males compared to females (OR=1.82, 95% CI=1.18-2.81). Moreover, significant association was found between the use of TM and the participants' age and occupation. With respect to perceived mental health, a person stating average mental health status had significantly higher use of TM (OR=1.38, 95% CI=1.02-1.89).

Conclusion

The utilization of TM within the Northwest Syrian community is evidently widespread. Finding emphasize the need to establish a system for rational clinical practice, drug safety, risk monitoring and incorporation of TM as a complementary approach to standard medical care, for vulnerable population.

Introduction

Modern medicine is a highly specialized evidence-based science developed with costly research and training. Thus, it becomes complex when it comes to providing care in an accessible and affordable way. Compared to modern medicine, traditional medicine (TM) that makes use of natural products is regarded to be more affordable, accessible and acceptable to the communities in which it operates .[1] TM comprises various methods of healing that include medicinal plants, animal products, physiotherapeutic procedures, and minerals; additionally, there is a wide variety of traditional healers known by different names in different societies.[2] According to World Health Organization (WHO); TM is an important resource for population health in resource-poor settings where the accessibility to primary health care is not easy.[3] Moreover, the WHO Traditional Medicine Strategy 2014–23 supports member states in harnessing the potential contribution of traditional and complementary medicine to health, wellness and people-centered health care.[4] It is believed that traditional healers can make a positive contribution in the promotion of community healthcare, because their way of practice is more culturally accepted and holistic compared to modern medicine. Furthermore, evidence supports that TM alone or in combination with modern medicine is effective in reducing the risk and complication of COVID-19 disease, the ongoing pandemic disease responsible for millions of deaths.[5] In view of this WHO affirms support for TM research for COVID-19 disease.[6]

In the middle east region, TM has important social, cultural and religious value. Middle Eastern region, particularly Syria, Lebanon, Jordan, and Palestine are historically rich in the use of TM.[7] The TM in this region mainly consists of medicinal herbs and some cultural practices.[8] Previous surveys suggested that a large part of the middle east population relies heavily on TM to cope with various healthcare needs.[7,9] Perhaps, TM is used in this region to treat minor illnesses to chronic diseases such as cancer.[7] Though cancer is a complex and costly disease to treat but the use of TM is the leading modality among patients with cancer in the middle east region.[10] Several medicinal herbs and their derivative are used to ease cancer symptoms and relieve treatment side effects.[11] The literature indicates that traditional therapies in palliative care for cancer have generally positive benefits.[11] This is especially true when a multidisciplinary approach is used to ensure safe and effective use of TM by oncology patients.

Notably, Syria has a variety of plant species which have therapeutic characteristics and have been used since ancient times; over 3500 species from 131 families have been discovered in Syria, hundreds of which may have medicinal and therapeutic value.[12] It is suggested that TM in Syria has historically been utilized to address a wide array of ailments including fever, common cold, diarrhea, loss of appetite, gastrointestinal tract discomfort, dandruff, scabies, fungal infections, insect bites, anemia, asthma, and infertility problems, as well as for analgesic antidepressant and antidiabetic and anti-inflammatory purposes.[13]

Unrest in Syria trigged on 15th March 2011 as part of Arab Spring protests. It escalated rapidly into a conflict and has created one of the most severe and complex humanitarian crises of the current time.[14] The ongoing hostilities have killed 306 thousand people including 930 healthcare workers[15,16] and led to one of the worst displacement crises of current history. As of July 2022, the United Nations High Commissioner for Refugees (UNHCR) had registered over 6.8 million Syrian refugees and estimated that over 6.9 million people are internally displaced persons (IDPs) inside the Syria.[17]

Northwest Syria which includes parts of Idlib, Aleppo, Hama, and Latakia, is the worst conflict-affected region. It is home to 4.4 million and nearly 50% of the displaced population.[18] Among them, 1.41 million are children under five years old, while 3.32 million are women of reproductive age.[19] It was identified that 13.4 million people need humanitarian support, and 12.4 million require health care.[20] Moreover, an estimated 45% of all deaths are related to non-communicable diseases in Syria, with the same main four types in the global; cardiovascular diseases, cancers, chronic obstetric pulmonary diseases and diabetes mellitus.[21] While the cost of health services, lack of medicines, shortage of healthcare workers , and fear of getting COVID-19 are still the main barriers to accessing health care.[19] The population's health situation is worsening in line with the worsening economic situation; prices of basic commodities, especially food, have been rising, especially in the last quarter of 2022. Many people live critically below the Survival Minimum Expenditure Basket of essential food and non-food items.[18] Furthermore, almost 90% of the population lives below the poverty line.[19]

As a geographical region, Northwest Syria also represents one of the richest centers of biodiversity.[12] In addition to poverty, most of the population is living in rural areas; hence they are more dependent on plants for both their livelihood and healthcare. Despite the popularity of TM among the Syrian population, this topic has received little research attention in conflict-affected Northwest Syria. Furthermore, armed conflict poses immense challenges for populations, including health risks, displacement, loss of livelihoods, education disruptions, psychosocial trauma, human rights violations, limited access to basic services, social cohesion breakdown, exploitation risks, and hindered humanitarian access. The use of TM s by vulnerable populations and the factors underlying people's decision are to use it is poorly documented in scientific literature. Therefore, the present study was designed to identify the use of traditional methods and the purpose of their use, along with exploring the underlying factor.

Materials and methods

Study Area

This study was conducted in Atmeh camps (in Aldana sub-district), Idleb city, Mastouma and Nyrab in rural Idleb (in Idleb governorate), also in Afrin city (in Aleppo governorate). These areas are located in Northwest Syria has been out of Syrian Governmental control since the beginning of the outbreak of conflict in 2011. Atmeh camps are near the Turkish border while Afrin city and Idleb city are 30 and 50 kilometers away from the Turkish border. According to the Syrian Arab Republic Humanitarian Needs Overview 2022 statistics, the total population of Atmeh camps is 193,443 with 96% IDPs, Idleb city is 295,287 with 48% IDPs, Mastouma 7500 with 40% IDPs, Nyrab 4000 with 35% IDPs and Afrin city 194,055 with 62% IDPs.[19] The healthcare system is fragmented and have two different geopolitically controlled regions; North Aleppo is under Turkish control with the health system in this area following that of the Turkish health system, while in Idleb Province there is the Ministry of Health of Syrian Salvation Government which is very poor in terms of professional human resources, also there is Idleb Health Directorate which is an independent body. In Northwest Syria, there are limited number of fully functional health facilities. According to the Health Resources and Services Availability Monitoring System HeRAMS report of the second Quarter of 2022, only 316 (58%) were reported fully functioning and providing full package of essential services, while 56 (10%) were partially functioning. Additionally, up to 70% of the health professionals have left the country.[22]

Study design and Study Population

It is a community-based cross-sectional study. The interviewees comprised a convenience sample of community residents. Interviews were conducted face-to-face. A person under 17 years of age or unable to give consent was excluded ; otherwise, all residents were eligible to participate. Trained public health students collected the data. Data were collected from October 2022 to December 2022.

Data collection

A structured interview questionnaire was developed after an extensive literature search. Demographic data, including age, sex, residence, marital status, education, occupation, and subjective economic status, were asked. Questions were asked regarding perceived mental and physical health (answered as Below average/ Average /Above average), any chronic disease, regular use and spending on modern medicine. Interviewees were asked if they are currently using TM or used it in the last one year. Those who replied yes were considered users of TM, and they were further asked about the type of TM used, the reason for use, frequency, duration, adverse effect, how much it costs monthly, who recommended it, and will they recommend it to other they take it. A questionnaire was developed in English and translated into Arabic language by native Arabic-speaking Authors.

Data analysis

The collected data were entered on a Microsoft Excel 2010 and transported to SPSS for statistical analysis. Descriptive statistics were used to characterize the study population. Logistic regression was used to determine the associations between the sociodemographic and health variables and TM use. The crude odds ratios (ORs) and adjusted odds ratios (ORs) with 95% confidence intervals (CIs) were calculated. The significance level was set at 0.05% ($p < 0.05$).

Ethical consideration

This study protocol was approved by the Ethical Review Committee of Ankara Yıldırım Beyazit University, Turkey. (Ref. No. 2022-1083). Data was collected after verbal consent, and all identifiable information was kept confidential.

Results

Sociodemographic Characteristics

A total of 1,699 individuals took part in the survey. This included 800 (47.1%) males and 899 (52.9%) females. The majority, 1020 (60%) of the participants were adults aged 18-45 years, and 1478 (87%) were married. Most of the participants were living in Idleb, but 17 (1%) stated their homes were in Afrin city, located 80 Km away from Idleb and having temporary residence in Idleb. Among all, 510 (30%) had a primary level of education. Regarding the question of occupation, most of the women replied as a housewife. Perhaps the second most common response among respondents was unemployed. Casual daily paid workers (n=169;9.9%) followed by own business (n=167;9.8%) was the most common answer among employed respondents. Furthermore, about 1090 (64.2%) rated their income as less than expenses.

Overall, 510 (30%) of participants had any chronic health conditions. In addition, 526 (31%) participants regularly use modern medicines and 289 (17%) spend between 100 and 500 Turkish Liras (TL) per month to purchase modern medicines. At the time of data collection, the exchange rate was approximately 18.5 Turkish Lira (TL) per 1 United States Dollar (USD). . For perceived physical health, 703 respondents (41.4%) rated it as ‹Average,› while for perceived mental health, 823 respondents (48.4%) also rated it as ‹Average'. The majority of participants (n=718; 42.3%) believed that TM is more effective than modern medicine (Table 1).

Practice of Traditional Medicine.

An overall 1174 (69.0%) of participants reported using or having used TM in the last one year. More than one method of traditional medicine was reported. As shown in Figure 1, the most common method of traditional medicine was Herbs, followed by Hajama. (Hajama is a traditional therapeutic practice that involves creating suction on the skin using cups to draw out stagnant blood and promote healing). Among user of TM The most common reason for use was to promote well-being (n = 431/1174; 36.7%). It was found that family (n = 485/1174; 41.3%), flowed by friends (n = 359/1174; 30.6%), were the most common source of information for the use of TM. When asked about frequency and duration of use, the majority used occasionally (n = 385/1174; 32.8%) and for more than a year (n = 491/1174; 41.8%).. It was worth noting that most (n = 1144/1174; 97.4%), had never experienced any side effects. It was found that monthly spending on TM was less than 100 TL for most of the respondent (n = 948/1174; 80.7%), in response to a question about whether they would recommend the use of TM to other more than half (n = 678/1174; 57.7%), stated that they would like to recommend it (Table 2).

Factors Affecting the use of Traditional Medicine

In regression analysis, after controlling the other variables, age, sex, residence, profession, and use of modern medicine were found to be associated with the use of TM. Results show that use of TM is significantly higher among those, aged 46 to 65 (OR= 2.21, 95% CI = 1.62-2.99) and those older than aged 65 (OR= 2.96, 95% CI = 1.74-5.03) compared to aged 45 or less. It was also revealed that the use of TM was 82% higher among males compared to females (OR= 1.82, 95% CI = 1.18-2.81). It was interesting to note that those living to Idlib rural area are less likely to use TM when compared with Idib city (OR= 0.24, 95% CI = 0.15-0.39). As would be expected, the use of TM is significantly higher for all professional groups compared

to healthcare professionals, for example, the casual daily paid workers were more likely to use TM 8.7 times than that health care workers (OR= 8.75, 95% CI = 3.8 - 20.14). There was also a significant association between the use of modern medicine and the use of TM. With respect to perceived mental health, results show that after controlling other variables, a person stating average mental health status had significantly higher use of TM (OR=1.38, 95% CI= 1.02-1.89). However, perceived physical health and use of TM had no significant association (Table 3).

Discussion

Countries in western Asia have a long history of treating and preventing human illnesses with traditional and herbal medicine. TM has a significant role in basic health care in many communities due to long-standing cultural acceptance of its usage.[7–10] In this study, it was observed that the utilization of TM was more prevalent in Northwest Syria. Traditional Arabic or Islamic medicines have been around for hundreds of years and are still in use today. The utilization of TM is widespread among Arabic-speaking populations, particularly those residing in conflict-affected areas. A prior study conducted in Palestine revealed that among 4575 hypertensive patients surveyed, 85.7% reported using at least one form of complementary and alternative medicine. Of the 3921 CAM users identified, 62.13% reported using herbal remedies.[9] A previous study in Turkey revealed that among Syrians under Temporary Protection living in the country, 32.5% sought traditional complementary and alternative medicine and practices when encountering health issues.[23]

The use of TM was more in males, married and old populations as compared to females, unmarried and younger population. Few other studies found more use of TM in the male population.[24–26] In contrast to our results, some studies found more use of traditional and self-medication among female.[27,28] According to these research, the fact that more women than men sought the use of TM might be due to the public health care system's neglect of women's health care needs, so women might be more open to unconventional solutions to their health problems.

In line with other studies[29–31], we also found that the use of TM was less in highly educated people with good socioeconomic status. This is similar to study conducted in Indonasia that found people with high education and socioeconomic status were more likely to use complementary medicine.[30] The reason for this could be that higher education leads to increased use of scientifically more reliable modern medicine, and those with a higher socioeconomic status can afford such medicine. A study conducted in Germany also found high use of TM in people with good socioeconomic and well-educated people.[31]

It was interesting to see in our study that people with chronic diseases were using more TM along with modern medicine, though this association was not significant. However, many other studies found the use of TM in chronic diseases such as musculoskeletal disorders, and the utilization of TM ranged from 20% to 60.2%.[25,32] In addition, TM was also found to be used to treat liver, respiratory, gastrointestinal, genitourinary disorders, and Various febrile illnesses.[24]

TM also has a long history and has been critical in the prevention and treatment of a variety of epidemic diseases in the past. After the COVID-19 pandemic, there has been a remarkable surge in the utilization of TM. Recently, some countries, including China, South Korea, Japan and India, have specifically issued TM treatment guidelines for the prevention and treatment of COVID-19.[5]

We also found that the use of herbs followed by Hajama was significantly high in Northwest Syria, and most of them were used only to promote self-wellbeing. Hijama, also known as cupping therapy, has a longstanding history of use in Arabic speaking countries. . It has been widely embraced within Islamic culture, as it is believed to have been recommended and practiced by Prophet Muhammad (peace be upon him). The use of Hajama in Islamic countries extends beyond its perceived physical benefits, and regarded as a prophetic medicine. Along with Hajam many traditional prophetic medicinal plants also garnered the attention of scholars and researchers. These plants have been extensively studied, revealing the presence of bioactive compounds and exhibiting various biological activities. The bioactive compounds found in these plants possess therapeutic potential and can be utilized symptomatically for treating various diseases, including COVID-19.[33]

Many countries, even in high-income settings, shifted back to TM after the COVID-19 pandemic as there was no definitive treatment for this virus.[34] Unfortunately, the extensive use of TM in Syria is because of difficult access to healthcare in affected areas of Syria due to humanitarian crises. One study found that conflict incidents were negatively associated with routine health services such as outpatient consultations and antenatal care. Conflict incidents, on the other hand, were positively associated with emergency-type maternity services—delivery and C-sections.[15]

All these findings highlight how crucial TM is to the Syrian healthcare system and one can infer from these results that there are particular causes for a high frequency of TM usage that is related to the cultural and social embedding, personal beliefs, and experiences. News reports from Syria highlight that the conflict that decimated med-

ical infrastructure and soaring drug prices are prompting Syrian patients in the use more TM. Over the past couple of years, demand for herbal medicine has significantly increased.[35,36] In this context, it is extremely important to create an environment for the correct and appropriate use of TM method which in Northwest Syria. Along with the strengthening of the modern healthcare system, the rational use of TM can contribute to the protection and enhancement of patient's health and wellbeing.

While TM is perceived as safer, documented cases show serious harms like renal or hepatic toxicity from specific TM products, injuries, infection, and nerve damage from acupuncture (37,38). The most significant harm is substituting alternative healthcare for established biomedical treatments for treatable conditions. Research on TM yields mixed results, with some studies suggesting its benefits while others indicate limited or no efficacy. For example, meta-analytic findings indicate that cupping may serve as a potential treatment for chronic pain, although the available evidence remains constrained.[39] Whereas a systematic review and meta-analysis indicated that herbal remedies were notably more effective than placebo in reducing the frequency and severity of patients' cough symptoms.[40] The mixed results in TM research can be attributed to various factors, including differences in study methodologies, variations in the types of TM used, individual responses to treatment, the quality of research conducted, and cultural or regional influences impacting the efficacy of TM practices. The application of TM is not exempt from ethical responsibilities. The ethical aspects of using traditional medicine center around ensuring safety and efficacy. While traditional medicines may hold cultural and spiritual value and enjoy trust due to historical use, it's crucial to prioritize treatments supported by scientific evidence. Practitioners should avoid misleading patients about benefits, prioritize safe and effective practices, and be transparent about the origins and validation of traditional knowledge.[41]

Like other cross-sectional studies, this study does have limitations. Due to various security and administrative issues, the convenient sampling method was used for data collection, which is one of the major limitations. Although we collected data from a large number of people, our study sample might not reflect the general population. Furthermore, this study relied on self-reported data for socioeconomic and health status, and it is possible that our results may be affected by self-reporting bias. Moreover, to demonstrate the impact of armed conflict on the accessibility and utilization of modern versus traditional medicine, a comparative study within the same population or targeted inquiries directly addressing this issue were necessary. The primary strength of the present study is the context of the study area, there are very few studies to understand the use of TM in conflict-affected setting, and thus this study fills the gap in the exciting literature and provide an opportunity for the future researcher with better planed research.

Conclusion

Our study revealed TM appears to be widely used among Northwest Syrian community, and there is significant association between the use of TM and gender, age and occupation. Despite the past cultural history, the use of TM among various socioeconomic and sociodemographic groups highlights health inequality. While much of it use occurs concurrently with conventional health care, it is critical that health care services Northwest Syria consider all health-seeking choices and behaviors in these communities to facilitate safe and effective patient care. Moreover, a system of rational clinical practice, drug safety and risk monitoring should be established to improve the use of TM as complementary to the standard medical care to improve the health of a vulnerable population.

Table 1. Sociodemographic Characteristics of Respondents (n=1699)		
Characteristics	N	%
Age		
18-45	1020	60.0
46-65	524	30.8
> 65	155	9.1
Sex		
Male	800	47.1
Female	899	52.9
Residence		
Idleb city	1163	68.5
Atmeh camps	417	24.5
Rural Idleb	102	6.0
Afrin	17	1.0
Marital Status		
Single	99	5.8
Married	1478	87.0
Widower	111	6.5
Divorced	11	0.6
Educational Status		
No formal education	238	14.0
Primary school	510	30.0
Secondary school	208	12.2
Intermediate school	489	28.8
High education	254	14.9
Profession		
Unemployed	343	20.2
House wife	784	46.1
Casual daily paid workers	169	9.9
Employee	118	6.9
Own Business	167	9.8
Health Worker	76	4.5
Other	42	2.5
Economic Status		
Income is less than expense	1090	64.2
Income equals expense	554	32.6
Income is higher than expenses	55	3.2
Any chronic disease		
No	1189	70.0
Yes	510	30.0
Use of Traditional Medicine		
No	525	31.0
Yes	1174	69.0
Use modern medicine regularly		
No	1173	69.04
Yes	526	30.96
Monthly Spend for medicines (TL)		
No Spend	1121	66.0
Less thanks 100 TL	260	15.3
100-500	289	17.0
More than 500 TL	29	1.7

Table 1. Sociodemographic Characteristics of Respondents (n=1699)		
Characteristics	N	%
Perceived Physical Health		
Below average	110	6.5
Average	703	41.4
Above average	886	52.1
Perceived Mental Health		
Below average	160	9.4
Average	823	48.4
Above average	716	42.1
Health Insurance		
No	1161	68.3
Yes	27	1.6
Don't know	511	30.1
Believe in Traditional		
Less effective than modern medicine	456	26.8
More effective than modern medicine	718	42.3
Don't know	525	30.9
Total	1699	100

Table 2. Characteristics of the user of traditional medicine (TM) (n = 1174)			
Characteristics		Number	%
Reason for TM use			
	Promote wellbeing	431	36.7
	Boost immune system	336	28.6
	Relieve symptoms/treat illness	223	19.0
	Less cost	144	12.3
	Unavailability of the modern medications	30	2.6
	Other	10	0.9
Frequency of TM use			
	Intermittent	385	32.8
	Monthly	88	7.5
	Weekly	361	30.7
	more than once weekly	340	29.0
Duration of TM use			
	Less than 6 months	421	35.9
	6 months - 12 months	262	22.3
	More than one year	491	41.8
Adverse effect due to TM			
	Never	1144	97.4
	Rarely	18	1.5
	Sometimes	12	1.0
Use of TM Recommended by			
	Family	485	41.3
	Friends	359	30.6
	Social Media	141	12.0
	Traditional care provider	143	12.2
	Health care provider	41	3.5
	Other	5	0.4
Recommend TM to other			
	Strongly don't recommend	1	0.1
	Don't recommend	6	0.5
	Neutral	187	15.9
	Recommend	678	57.7
	Strongly recommend	302	25.7
Monthly spending on buying TM			
	Less than 100	948	80.7
	100 - 500	221	18.8
	More than 500	5	0.4
	Total	1174	100

Table 3. Factors associated with the use of traditional medicine (TM).

Variable	Categories	Reported the use of TM (among whole respondents) N=	Unadjusted OR (95% CI) [p-value]	Adjusted OR (95% CI) [p-value]
Age		% (n/N)		
	18-45	63.3% (646/1020)	1	1
	46-65	76.5% (401/524)	1.887 (1.487-2.397)	2.21 (1.62 - 2.99)
	> 65	81.9%(127/155)	2.626 (1.711-4.031)	2.96 (1.74 - 5.03)
			[p<0.001]	[p<0.001]
Sex				
	Female	64.8% (583/899)	1	1
	Male	73.9% (591/800)	1.533 (1.244-1.889)	1.82 (1.18 – 2.81)
			[p<0.001]	p=0.007
Residence				
	Idleb city	72.1% (839/1163)	1	1
	Atmeh camps	72.9% (304/417)	1.039 (0.808-1.335)	1.12 (0.85 - 1.47)
	Rural Idleb	29.4% (30/102)	0.161 (0.103-0.251)	0.24 (0.15 - 0.39)
	Afrin	5.9% (1/17)	0.024 (0.003-0.183)	0.03 (0.01 - 0.23)
			[p<0.001]	[p<0.001]
Marital Status				
	Single	52.5% (52/99)	1	1
	Married	70.3% (1039/1478)	2.139 (1.420-3.223)	1.49(0.92 - 2.41)
	Divorced /Widower	68.0% (83/122)	1.924 (1.112-3.328)	1.23 (0.63 – 2.37)
			[p=0.001]	p=0.193
Educational Status				
	No formal education	73.1% (174/238)	2.435 (1.669-3.553)	1.27 (0.73 - 2.2)
	Primary school	69.4% (354/510)	2.032 (1.490-2.771)	1.08 (0.67 - 1.73)
	Secondary school	71.2% (148/208)	2.209 (1.498-3.257)	1.25 (0.76 - 2.05)
	Intermediate school	74.4% (364/489)	2.608 (1.895-3.589)	1.42 (0.89 - 2.26)
	High education	52.8% (134/254)	1	1
			[p<0.001]	p=0.334
Profession				
	Unemployed	73.5% (252/343)	8.923 (4.993-15.947)	4.53 (2.11 - 9.74)
	House wife	67.7% (531/784)	6.763 (3.903-11.717)	6.43 (2.85 - 14.47)
	Casual daily paid workers	81.7% (138/169)	14.344 (7.437-27.664)	8.75 (3.8 - 20.14)
	Employee	73.7% (87/118)	9.043 (4.631-17.657)	8.67 (4.06 - 18.51)
	Own Business	74.3% (124/167)	9.292 (4.937-17.489)	4.93 (2.23 - 10.89)
	Health Worker	23.7% (18/76)	1	1
	Other	57.1% (24/42)	4.296 (1.915-9.640)	4.64 (1.78 - 12.09)
			[p<0.001]	[p<0.001]
Economic Status				
	Income is less than expense	69.9% (762/1090)	1.936 (1.121-3.343)	0.68 (0.32 - 1.43)
	Income equals expense	69.0% (382/554)	1.851 (1.057-3.242)	0.8 (0.38 - 1.68)
	Income is higher than expenses	54.5% (30/55)	1	1
			p=0.060	p=0.337
Any chronic disease				
	No	68.1% (810/1189)	1	1
	Yes	71.4% (364/510)	1.167 (0.929-1.465)	0.81 (0.46 - 1.42)
			p=0.182	p=0.457
Use modern medicine regularly				
	No	67.9% (797/1173)	0.838 (0.668-1.050)	2.51 (1.01 - 6.42)
	Yes	71.7% (377/526)	1	1
			p=0.123	p=0.050
Monthly Spend for medicines (TL)				
	No Spend	67.3% (754/1121)	1	1
	Less thanks 100 TL	69.6% (181/260)	1.115 (0.833-1.494)	1.96 (0.9 - 4.27)
	100-500	75.4% (218/289)	1.494 (1.112-2.008)	2.7 (1.12 - 6.52)
	More than 500 TL	72.4% (21/29)	1.278 (0.561-2.912)	2.47 (0.73 - 8.39)
			p=0.062	p=0.167
Perceived Physical Health				
	Below average	67.3% (74/110)	0.975 (0.639-1.487)	0.72 (0.41 - 1.26)
	Average	71.0% (499/703)	1.160 (0.935-1.439)	0.87 (0.64 - 1.2)
	Above average	67.8 % (601/886)	1	1
			p=0.367	p=0.454
Perceived Mental Health				
	Below average	65.0% (104/160)	0.966 (0.674-1.384)	1.13 (0.70 -1.82)
	Average	72.8% (599/823)	1.391 (1.119-1.729)	1.38 (1.02 -1.89)
	Above average	65.8% (471/716)	1	1
			p=0.006	p=0.082

Conflict of Interest Statement
The authors declare that there is no conflict of interest regarding the publication of this article.

Funding and Acknowledgments
We would like to acknowledge the generous support of Syrian Expatriate Medical Association SEMA for providing financial assistance and scholarship opportunities to for Master in Global Health at the Department of Public Health, Faculty Of Medicine Ankara Yıldırım Beyazıt University, Turkey.

Disclaimer
None

Competing Interests
None

Ethical Approval
This study protocol was approved by the Ethical Review Committee of Ankara Yıldırım Beyazit University, Turkey (Ref. No. 2022- 1083).

References

1. 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 [Internet]. 2012 Dec [cited 2023 Feb 21];27(8):625–37. Available from: https://pubmed.ncbi.nlm.nih.gov/22345671/
2. Yuan H, Ma Q, Ye L, Piao G. The Traditional Medicine and Modern Medicine from Natural Products. Molecules [Internet]. 2016 May 1 [cited 2023 Feb 21];21(5). Available from: /pmc/articles/PMC6273146/
3. WHO traditional medicine strategy 2002-2005 [Internet]. [cited 2023 Feb 21]. Available from: https://www.who.int/publications/i/item/WHO-EDM-TRM-2002.1
4. WHO traditional medicine strategy: 2014-2023 [Internet]. [cited 2023 Feb 21]. Available from: https://www.who.int/publications/i/item/9789241506096
5. Ang L, Song E, Lee HW, Lee MS. Herbal Medicine for the Treatment of Coronavirus Disease 2019 (COVID-19): A Systematic Review and Meta-Analysis of Randomized Controlled Trials. J Clin Med [Internet]. 2020 May 1 [cited 2023 Feb 21];9(5). Available from: https://pubmed.ncbi.nlm.nih.gov/32456123/
6. WHO affirms support for COVID-19 traditional medicine research | WHO | Regional Office for Africa [Internet]. [cited 2023 Feb 21]. Available from: https://www.afro.who.int/news/who-affirms-support-covid-19-traditional-medicine-research
7. Azaizeh H, Saad B, Khalil K, Said O. The State of the Art of Traditional Arab Herbal Medicine in the Eastern Region of the Mediterranean: A Review. Evidence-Based Complementary and Alternative Medicine [Internet]. 2006 Jun [cited 2023 Feb 21];3(2):229–35. Available from: https://www.hindawi.com/journals/ecam/2006/512895/?utm_source=google&utm_medium=cpc&utm_campaign=HDW_MRKT_GBL_SUB_ADWO_PAI_DYNA_JOUR_X_PJ&gclid=CjwKCAiA9NGfBhBvEiwAq5vSy917UnSDYnYy7Zol4o3cN-1BWtu_1UkrVlP9mpSW0CfGcnfKTiETqxoCJPIQAvD_BwE
8. Rifaat Ibrahim I, Azmi Hassali M, Saleem F, Tukmagi FAl H. The History of Traditional Medicine in the Arab Region. Complement Med Alt Healthcare J [Internet]. 2017 [cited 2023 Feb 21];4(2). Available from: https://juniperpublishers.com/online-submission.php
9. Ali-Shtayeh MS, Jamous RM, Jamous RM, Salameh NMY. Complementary and alternative medicine (CAM) use among hypertensive patients in Palestine. Complement Ther Clin Pract [Internet]. 2013 Nov [cited 2023 Feb 21];19(4):256–63. Available from: https://pubmed.ncbi.nlm.nih.gov/24199984/
10. Ben-Arye E, Schiff E, Mutafoglu K, Omran S, Hajjar R, Charalambous H, et al. Integration of complementary medicine in supportive cancer care: survey of health-care providers' perspectives from 16 countries in the Middle East. Support Care Cancer [Internet]. 2015 Oct 1 [cited 2023 Feb 21];23(9):2605–12. Available from: https://pubmed.ncbi.nlm.nih.gov/25617072/
11. Kahriz MP, Kahriz PP, Ahmed F, Khawar KM. Herbal Medicines: A Boon for Healthy Human Life. 1st Edition. United Kingdom. Elsevier. Academic Press. Chapter number 26. An introduction to herbal medicines and palliative care of cancer patients and related diseases through times in Turkey [Internet]. 2022 [cited 2023 Feb 21]. p. 579–86. Available from: https://www.elsevier.com/books/herbal-medicines/siddique/978-0-323-90572-5
12. Alachkar A, Jaddouh A, Elsheikh MS, Bilia AR, Vincieri FF. Traditional medicine in syria: Folk medicine in aleppo governorate. Nat Prod Commun. 2011 Jan 1;6(1):79–84.
13. Khatib C, Nattouf A, Hasan Agha MI. Traditional medicines and their common uses in central region of Syria: Hama and Homs - an ethnomedicinal

survey. Pharm Biol [Internet]. 2021 [cited 2023 Feb 21];59(1):778–88. Available from: https://pubmed.ncbi.nlm.nih.gov/34165371/

14. Syria's war explained from the beginning | News | Al Jazeera [Internet]. [cited 2023 Feb 21]. Available from: https://www.aljazeera.com/news/2018/4/14/syrias-war-explained-from-the-beginning
15. Ekzayez A, Alhaj Ahmad Y, Alhaleb H, Checchi F. The impact of armed conflict on utilisation of health services in north-west Syria: an observational study. Confl Health [Internet]. 2021 Dec 1 [cited 2023 Feb 21];15(1). Available from: https://pubmed.ncbi.nlm.nih.gov/34906188/
16. UN Human Rights Office estimates more than 306,000 civilians were killed over 10 years in Syria conflict | OHCHR [Internet]. [cited 2023 Feb 21]. Available from: https://www.ohchr.org/en/press-releases/2022/06/un-human-rights-office-estimates-more-306000-civilians-were-killed-over-10
17. Syria Refugee Crisis Explained [Internet]. [cited 2023 Feb 21]. Available from: https://www.unrefugees.org/news/syria-refugee-crisis-explained/
18. North-West Syria: Situation Report (20 Apr 2022) - Syrian Arab Republic | ReliefWeb [Internet]. [cited 2023 Feb 21]. Available from: https://reliefweb.int/report/syrian-arab-republic/north-west-syria-situation-report-20-apr-2022
19. 2022 Humanitarian Needs Overview: Syrian Arab Republic (February 2022) [EN/AR] - Syrian Arab Republic | ReliefWeb [Internet]. [cited 2023 Feb 14]. Available from: https://reliefweb.int/report/syrian-arab-republic/2022-humanitarian-needs-overview-syrian-arab-republic-february-2022
20. Reflection on inclusive health services in northwest Syria (NWS) - Syrian Arab Republic | ReliefWeb [Internet]. [cited 2023 Feb 21]. Available from: https://reliefweb.int/report/syrian-arab-republic/reflection-inclusive-health-services-northwest-syria-nws
21. Syrian Arab Republic: Public Health Situation Analysis (PHSA) Long-form | Last update: 18 August 2022 - Syrian Arab Republic | ReliefWeb [Internet]. [cited 2023 Feb 14]. Available from: https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-public-health-situation-analysis-phsa-long-form-last-update-18-august-2022
22. Health Resources Availability Monitoring System (HeRAMS), Third Quarter, 2021 Report, Turkey Health Cluster for Northwest of Syria, Jul - Sep 2021 - Syrian Arab Republic | ReliefWeb [Internet]. [cited 2023 Jan 2]. Available from: https://reliefweb.int/report/syrian-arab-republic/health-resources-availability-monitoring-system-herams-third-quarter-2
23. Kaya F, Polat C, Ademoğlu B, BakirhaN F, Kantarcioğlu A, Gürgöze R, et al. The Examination of the use of Traditional, Complementary and Alternative Medicine and Practices by Turkish citizens and Syrians under temporary protection. International Journal of Traditional and Complementary Medicine Research. 2022 Feb 21;3(1)
24. Raheem A NT, Kishore J H, Kazmi MH, Khadeerunisa S, Minhajuddin A et al. Perception and Practice of People about Unani Medicine attending National Arogya Fair, Visakhapatnam, Andhra Pradesh | Journal of Advanced Research in Ayurveda, Yoga, Unani, Siddha and Homeopathy (ISSN: 2394-6547) [Internet]. [cited 2023 Feb 21]. Available from: https://www.medicaljournalshouse.com/index.php/JournalofADR-AYUSH/article/view/415
25. Nazli T, Research Officer UMCV & SHNDI. Knowledge and Practices of Unani Medicine among Patients Attending OPD at a Tertiary Care Hospital in North India. International Journal of Healthcare Education & Medical Informatics [Internet]. 2020 [cited 2023 Feb 21];07(01):10–5. Available from: https://www.academia.edu/en/70983655/Knowledge_and_Practices_of_Unani_Medicine_among_Patients_Attending_OPD_at_a_Tertiary_Care_Hospital_in_North_India
26. Singhal S, Roy V. Awareness, practice and views about integrating AYUSH in allopathic curriculum of allopathic doctors and interns in a tertiary care teaching hospital in New Delhi, India. J Integr Med [Internet]. 2018 Mar 1 [cited 2023 Feb 21];16(2):113–9. Available from: https://pubmed.ncbi.nlm.nih.gov/29526234/
27. Kristoffersen AE, Stub T, Salamonsen A, Musial F, Hamberg K. Gender differences in prevalence and associations for use of CAM in a large population study. BMC Complement Altern Med [Internet]. 2014 Dec [cited 2023 Feb 21];14(1). Available from: https://pubmed.ncbi.nlm.nih.gov/25465676/
28. Tripković K, Nešković A, Janković J, Odalović M. Predictors of self-medication in Serbian adult population: cross-sectional study. Int J Clin Pharm [Internet]. 2018 Jun 1 [cited 2023 Feb 21];40(3):627–34. Available from: https://pubmed.ncbi.nlm.nih.gov/29603073/
29. 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 [Internet]. 2020 Sep 10 [cited 2023 Feb 21];10(9). Available from: https://pubmed.ncbi.nlm.nih.gov/32912997/

30. Pengpid S, Peltzer K. Utilization of traditional and complementary medicine in Indonesia: Results of a national survey in 2014–15. Complement Ther Clin Pract. 2018 Nov 1;33:156–63.

31. Welz AN, Emberger-Klein A, Menrad K. The importance of herbal medicine use in the German health-care system: Prevalence, usage pattern, and influencing factors. BMC Health Serv Res [Internet]. 2019 Dec 10 [cited 2023 Feb 21];19(1):1–11. Available from: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4739-0

32. Naaz F. A Study of Service Utilization and Patient Satisfaction among Patients Attending State level AYUSH Hospital in Delhi. Journal of Ayurvedic and Herbal Medicine [Internet]. 2019 [cited 2023 Feb 21];5(1):1–06. Available from: www.ayurvedjournal.com

33. Mehmood A, Khan S, Khan S, Ahmed S, Ali A, xue M, et al. In silico analysis of quranic and prophetic medicinals plants for the treatment of infectious viral diseases including corona virus. Saudi J Biol Sci [Internet]. 2021 May 1 [cited 2023 Aug 6];28(5):3137. Available from: /pmc/articles/PMC7899931/

34. 34. Muhammad F. COVID-19 Pandemic: The Role of Traditional Medicine. International Journal of Infection 2020 7:3 [Internet]. 2020 Jul 28 [cited 2023 Feb 21];7(3). Available from: https://brieflands.com/articles/iji-107090.html

35. Alternative medicines pose health risks in war-torn Syria [Internet]. [cited 2023 Feb 21]. Available from: https://www.newarab.com/features/alternative-medicines-pose-health-risks-war-torn-syria

36. Syrians resort to herbal medicine amid drug crisis - Al-Monitor: Independent, trusted coverage of the Middle East [Internet]. [cited 2023 Feb 21]. Available from: https://www.al-monitor.com/originals/2022/03/syrians-resort-herbal-medicine-amid-drug-crisis#ixzz7sOAAFvL8

37. Posadzki P, Watson LK, Ernst E. Adverse effects of herbal medicines: an overview of systematic reviews. Clinical Medicine [Internet]. 2013 Feb 1;13(1):7–12. Available from: http://www.clinmed.rcpjournal.org/content/13/1/7.full.pdf

38. Lao L, Hamilton GR, Fu J, Berman BM. Is acupuncture safe: a systematic review of case reports [Internet]. www.ncbi.nlm.nih.gov. Centre for Reviews and Dissemination (UK); 2003 [cited 2024 May 11]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK69580/#:~:text=This%20review%20assessed%20the%20risks%20associated%20with%20acupuncture.

39. Cramer H, Klose P, Teut M, Rotter G, Ortiz M, Anheyer D, et al. Cupping for Patients With Chronic Pain: A Systematic Review and Meta-Analysis. The Journal of Pain. 2020 Sep;21(9-10):943–56.

40. Wagner L, Cramer H, Klose P, Lauche R, Gass F, Dobos G, et al. Herbal Medicine for Cough: a Systematic Review and Meta-Analysis. Complementary Medicine Research. 2015;22(6):359–68.

41. Chatfield K, Salehi B, Sharifi-Rad J, Afshar L. Applying an Ethical Framework to Herbal Medicine. Evidence-Based Complementary and Alternative Medicine. 2018 Sep 19;2018:1–7.