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Research Paper

A study on awareness and attitude of people towards use of traditional medicine in Central Kashmir, J&K

Bilal Ahmad Bhat[1*], Shaikh Ghulam Rasool[2], Syed Sabahat Ashraf[3], Arizo Jan[4], S. N. Z. Geelani[5]

[1*]Division of Social Sciences, Faculty of Fisheries, SKUAST-Kashmir, J&K, India.
[2]Chairman, School for Rural Development and Environment, Malik House, New Airport Road, Hyderpora, (Near Al Amin Hospital) Srinagar, Jammu & Kashmir, India.
[3]Government Unani Medical College and Hospital Ganderbal, Kashmir, J&K, India.
[4]Division of Fisheries Resource Management, Faculty of Fisheries, SKUAST-Kashmir, Rangil Ganderbal, J&K, India.
[5]Faculty of Forestry, Benihama, Watlar, Ganderbal -191201, SKUAST-Kashmir, J&K, India.

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ABSTRACT

Background: Jammu and Kashmir, known as "heaven on earth," is characterized by high mountains, dense forests, and rich biodiversity. These natural resources contribute to the regional economy and provide medicinal plants widely used in traditional healthcare. Hakeems, Vaidyas, and local communities possess valuable knowledge of medicinal plants and their therapeutic uses. However, this traditional knowledge is increasingly threatened by environmental changes and anthropogenic activities.

Objective: To assess the awareness and attitudes of people in Central Kashmir, Jammu and Kashmir, towards the use of traditional Unani medicine.

Methods: A cross-sectional study was conducted among 400 randomly selected respondents, including 200 males and 200 females, recruited from Unani hospitals and the general population. Data were collected using a structured and validated questionnaire and analyzed using appropriate statistical methods.

Results: Respondents were aware of the importance of traditional medicine, but their attitude towards using Unani medicine for treatment was comparatively low. Awareness of Unani medicine as a treatment option was reported by 69.5% of males and 73.5% of females. Family elders were the main source of information (32.5% males; 38.5% females), followed by neighbours (17.0% males; 20.0% females) and friends (15.0% males; 18.5% females). A statistically significant gender difference was observed regarding treatment preference ($P < 0.01$).

Conclusion: Negative attitudes towards medicinal plants and inadequate healthcare facilities remain major barriers to the effective use of Unani medicine. Large-scale awareness programmes and improved healthcare facilities are needed to promote the use and conservation of traditional medicinal knowledge in Jammu and Kashmir.

Corresponding Author:
Bilal Ahmad Bhat
Division of Social Sciences, Faculty of Fisheries, SKUAST-Kashmir, J&K, India.
Email: bhat_bilal@rediffmail.com

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1. INTRODUCTION

There has been a long history of plants serving as sources of medicine. The World Health Organization estimates that up to 80 percent of people still rely primarily on traditional remedies for their medicines, such as herbs. There is great promise in traditional medicine for providing effective medicines for a range of ailments that can be easily accessed [1]. Synthetic substances have increasingly been replaced by natural ones over the past few decades. The more complex synthetic substances are, the longer it takes for them to return to nature and complete their natural cycle. This results in increased pollution of our environment. Furthermore, chemical production has become more complex due to the increase in raw material prices. Natural antioxidants like phenolic compounds have become increasingly popular in recent years because they reduce oxidative stress and inhibit macromolecular oxidation, decreasing the chance of developing degenerative diseases [2], [3], [4]. Medicine has incorporated medicinal plants into its Materia Medica in both formal and informal systems. The importance of floral biodiversity for health care has been documented by different civilizations. There are a number of modern drugs derived from traditional herbal medicine and used in modern pharmacotherapy due to the crucial role natural products play as a source of drug compounds [5]. [6] Human communities have been passing down empirical knowledge about their beneficial effects for centuries. Meanwhile, many plant species with their bioactive components have been studied along with their biological properties. Bioassay-guided natural drug discovery is no longer the only approach to identify bioactive phytochemicals. Increasingly, bioactive phytochemicals are being identified by high-throughput screening [7], [8] and reverse pharmacognosy [9]. The future of medicinal plants is bright, despite the fact that many species have not yet been thoroughly explored and their phytochemical compositions and potential health benefits have not been evaluated [7].

India has 550 ethnic/tribal communities, which make up around 8% of the population. Approximately 15% of the subcontinent is made up of forest-dominated tribal villages. In this respect, India is considered a treasure trove of ethnobotanical knowledge. Political and socioeconomic factors have, however, marginalized traditional knowledge bases and practices. People interested in traditional medicine have recently become more interested in exploring tribal knowledge. According to several studies, tribal populations in remote areas rely heavily on plant-based resources for medicines, food, forage, and fuel, along with playing an important role in managing natural resources. A variety of minor forest products and traditional preparations are used by tribal communities in Kerala for their healthcare needs. In addition, natural herbs have been proven to be safe for treating a variety of ailments with few side effects [10]. In terms of pharmaceutical, cosmetic and nutritional applications, medicinal plants are part of a large plant group that is of great interest. Aside from this, they seem to be an excellent alternative to traditional crops with species being in high demand at the moment on the international market [11]. An objective of the present study was to assess the awareness and attitude of people towards the use of Unani medicine in central Kashmir. The plants used as medicine in Kashmir valley [12], [13], [14] are reported below in Table 1, with botanical name, local name, family, parts used and uses.

Table 1. Medicinal Plants with botanical, Local, Family Name and Uses

S. No.	Taxon Name	Local Name	Family	Part Used	Ethano Medicine Uses
1	Acorus calamus	Via-gander	Acoraceae	Rhizome	Cough, Stomachic, Diarrhea, Swellings, Joint pain
2	Arnebia benthamii	KahZaban	Boraginaceae	Rhizome	Common Cold, Fever, Cough, Blood purifier
3	Achillea millefolium	Berguer, Pahal Gassesh	Asteraceae	Rhizome, Leaves	Headache, Tooth ache, Cough
4	Aconitum heterophyllum	Paewakh	Ranunculaceae	Root	Antidote for snakebites
5	Arisaema jacquemontiana	Hapatmakei	Araceae	Rhizoem	Muscular strength and Skin infections
6	Artemesia absenthium	Tethwan	Asteraceae	Leaves	Obesity, Diabetes, Liver infection
7	Aconitum violaceum	patrees	Ranunculaceae	Root	Antidote for snakebites
8	Anemone obtusiloba	Srub	Ranunculaceae	Seeds	Rheumatism
9	Androsace rotundifolia	Uzmposh	Primulaceae	Rhizome	Cataract
10	Arctium lappa	Phughood	Asteraceae	Leaves, root	Boils, Body pain, Skin disease
11	Aquilegia fragrans	Daduejaid	Ranunculaceae	Flowers	Indigestion
12	Asparagus officinalis	Parglas	Liliaceae	Whole plant, roots	Toothache, Rheumatism, Female infertility
13	Berberis lyceum	Kawdach	Beriberidaceae	Roots, Fresh fruit	Falling of Hairs. Indigestion, Constipation
14	Cascuta reflexa	Kukliporte	Cuscutaceae	Whole Plant	Wound healing, Joint pains
15	Cynodon dactylon	Daraunm	Poaceae	Whole plant	Common cold
16	Corydalis govianiana	Sangi-harb	Fumariaceae	leaves	Respiratory disorders, Chest infections, Asthama
17	Cardamine impatiens	Pahal-laish	Brassicaceae	Whole plant	Asthma, Hayfever
18	Cichorium intybus	Kazal-Handh	Asteraceae	Root	Rheumatism Sore throat jaundice
19	Dioscorea deltoidea	Kraeth	Discoreaceae	Leaf	Opthalimic infections, Urinary infections
20	Gallium aparine	Loothar	Rubiaceae	Leaves	Jaundice, Antiseptic
21	Geum elatum	Shoonkar	Rosaceae	Root	Astringent, Dysentery and Diarrhoea
22	Gnaphalium affine	Janglidodal	Asteraceae	Leaves	Antiperiodic, Antitussive expect orant and Febrifuge
23	Hackeliauncinatum	Neelaan	Boraginaceae	Flowers	Healingwounds,

					Expectorant, Treatingtumors
24	Hyoscyamus niger	Bazarbang	Solanaceae	Seed	Toothache
25	Indigofera heterantha	Jandi	Leguminosae	Leaves	Internalbodydisorders
26	Urtica dioca	Soi	Urticaceae	Leaves and Roots	Rheuatism
27	Viscum album	Aal	Loranthaceae	Whole plant	Laxative and Fractures
28	Ficus carica	Anjeer	Moraceae	Stem, milkylatex, fruit pulp	Birth rate control Insect bite and Warts
29	Pinus roxburghii	Chad	Pinaceae	Seedsandgums	General Weakness After child birth
30	Rosa webbiana	Gulab	Rosaceae	Flowers	Coughand Colds.
31	Atropa acumniata	Chellalubbar	Solanaceae	Rootsandleaves	Cough. And Antispasmodic
32	Berginia ligulata	Zakhmihayat	Saxifraceae	Leaves and roots	Intestinecomplaintsand Stomachulcers
33	Nasturtium officinalle	Kulhak	Brasicaceae	Leaf	Stomachic
34	Prunella vulgaris	kulwauth	Lamiaceae	flower	Headache, Fever, Muscularpain
35	Salix wallichiana	Danthiveer	Salicaceae	Leaves	Fever, Headache, Genral bodypain
36	Saussurea costus	Kuth	Asteraceae	Rhizome	Back pain, Joint pain,sole Ulcers, Dysentery, Fever, Urinary problems
37	Stellaria media	Losdhi	Caryophyllaceae	Seed	Skin infection, Allergy
38	Fumaria indica	Pugsley, Shahtaur	Fumariaceae	Whole plant	Dyspepsia, Rheumatism
39	Impatiens glandulifera	Trul	Balsaminaceae	Leaves	Skin burn, Jointpain
40	Lamium album	Poshkar	Lamiaceae	Whole plant, leaves flowers	Cough, Metrorrhagia,
41	Nepetaraphanorhiza	Vangogil	Lamiaceae	Whole plant, leaves	Dysentry, Toothache
42	Oxalis corniculata	Tsok-tsen	Oxalidaceae	Whole plant, leaves	Toothache, Convulsions, Blood purification, Diarrhoea
43	Rheum emodi	Pambechalan	Polygonaceae	Leaves	Rheumatic pain, Wounds, Dislocated joints, Boils
44	Rubia cordifolia	Rubes	Rubiaceae	Roots	Stomachache, Jaundice
45	Sambaucus wightiana	Hapatfal	Caprifoliaceae	Root, leaves	Chest congestion, Boils

46	Senecio graciliflorus	Mongol	Asteraceae	Leaves, flowers	Dermatitis, Stomachache
47	Verbascum Thapsus	Wantamook	Scrophulariaceae	Flowers	Cough, Pneumonia
48	Angelicaglauca	Choora	Apiaceae	Root	Vomiting
49	Ajuga bracteosa	Kauribooti	Lamiaceae	Stem, leaves	Ulcer, Colicand Jaundice
50	Gentiana kurroo	Desibangara	Gentianaceae	Root	Stomachache and Urinary infections
51	Artmisia absinithium	Tethwan	Astraceae	Whole plant	Chronic fever, Gout
52	Tussilago farfara	BannHulla	Asteraceae	Leaves	Astringent, Emollient, Expectorant, Stimulantand Tonic
53	Betula utilis	Bhuz	Betulaceae	bark	Antiseptic
54	Rhodiola himalensis	Dandjari	Crassulaceae	bark	Infection of teeth
55	Juniperus communis	Bithur	Crassulaceae	Leaves	Rheumatism,
56	Glycyrrhiza glabra	Shanger	Fabaceae	Root	Cough, Hepatitis
57	Morina longifolia	Kim	Dipsacaceae	Roots	Insecticide
58	Juglans regia	Doankul	Juglandaceae	Leaf, Bark	Tooth infection, scrofula, Ricketsand Leucorrhoea
59	Phytolacca acinosa	Brand	Phytolaccaceae	Root	Narcotic effect, Sedative
60	Abies pindrow	Sal	Pinaceae	bark	Rheumatism
61	Cedrus deodara	Divdar	Pinaceae	Stem, Bark	Skin rashes and External ulcers
62	Punica granatum	Daankul	Punicaceae	Seed	Jaundice and Anaemia
63	Picrorhiza kurrooa	Kour	Scrophulariacea E	Roots, Rhizome	Fever, Appetizer
64	Podophyllum hexandrum	Banwangun	Berberidaceae	leaves and roots	Skin diseases, Gastric Problems
65	Amaranthus caudatus	Leesa	Amaranthaceae	Whole plant	Expectorant, Fever
66	Cydonia oblonga Mill	Bumchuont	Rosaceae	Seed, Fruit, Flower	Constipation, Birth problems, Jaundice, Blood purifier, General body weakness, Asthma weakness
67	Malva sylvestris	Sotal	Malvaceae	seeds	Cough, Fever, Eyesight
68	Papaver somniferum	Kashkhas	Papaveraceae	Fruit	Dry Cough, Diarrhea
69	Sambucus wightiana	Kown	Sambucaceae	roots, leaves and berries	Diuretic Purgative
70	Violaodorata	Bunufsha	Violaceae	Leaves, seeds andflowers	Respiratoryproblems
71	Viburnum	Kulmanch	Caprifoliaceae	Seed	Typhoid,

	grandiflorum				Whoop in gcough
72	Vitis vinifera	Daech	Vitaceae	Leaves	Skin rashes, Sores, Eruptions

2. METHODOLOGY

In this study, we select 400 respondents (200 male and 200 female) randomly from different Unani hospitals of study area and in study area i.e., central Kashmir. A well-designed validated questionnaire was used to collect the information in view of the literature available on the topic and on the characteristics of the respondent's viz., gender, residence, education status, type of family, economic status of family etc. The participants who participated in this study were given a verbal explanation regarding the purpose of this study and were assured that confidentiality would be carried out throughout this survey. The sample size for present study was computed using [15].

$$n = \frac{Z^2{}_a\, P(1-P)}{d^2}$$

Here, we choose p = 0.5, $Z_a = 1.96$ and d = 0.05. That gives the approximate sample size n~384 and we decided to take n = 400. The data collected from our survey was tabulated, analyzed and interpreted statistically. The statistical software SPSS (version 20) was used for analysis of data.

2.1 Research Hypothesis

Hypothesis: There is no significant difference in attitude between male and female people towards use of traditional medicine.

$$X^2 = \sum_{i=1}^{n} \frac{(o_i - e_i)^2}{e_i}$$

In order to test the research hypothesis, we use chi square test (with usual notations) given as

Where $\chi^2 - \chi_1{}^2$ O_i and e_i are observed and expected frequencies. We reject H_0 if p-value is less than specified level of significance.

3. RESULTS AND DISCUSSION

The data presented in Table 2, shows the distribution of studied population as per the characteristics Gender, Age, Education status, Family type, Residence respondents and Economic status of the family. The study involved 50% male 50% female respondents revealed that majority of the respondents understudy were in the age group of 21-35 years with the frequency 147 (36.75 %), literate 375 (93.75%), belonging to urban areas 254 (63.5%) and majority of respondents were from middle class families 376 (94%).

Table 2. Characteristics of the Studied Population

S. No	Variable	Type	Frequency	Percentage
1.	Gender	Male	200	50%
		Female	200	50%
2.	Age	Upto 20	29	7.25%
		21-35	147	36.75%
		36-50	122	30.5%
		Above 50	102	25.5%
3.	Education status	Literate	375	93.75%
		Illiterate	25	6.25%
4.	Residence	Urban	254	63.5%
		Rural	146	36.5%

5.	Family status	Lower class	17	4.25%
		Middle class	376	94%
		Upper class	7	1.75%

The data presented in Table 3, reveals that in response to the statements which shows awareness and attitude of respondents towards use of Unani medicine as treatment for illness. In response to statement 1, i.e., Do you have any idea about Unani system of medicine, majority of the respondents (83.5%) reported yes. In response to statement 2, i.e., Do you think Unani medicine are more effective than modern medicine, majority of the respondents (52.5%) reported yes. In response to the statement 3, i.e., Do the people of Kashmir give Unani method of medical treatment as much importance as modern treatments, majority of the respondents (78.5%) reported no. In response to the statement 4, i.e., Do you think that Unani medicine have any side effects, majority of the respondents (76.5%) reported yes. In response to statement 5, i.e., Does Kashmir have enough unani Panch karma Centre, majority of the respondents (77.5%) reported no. In response to statement 6, i.e., Which treatment you prefer in case of some health issue, majority of the respondents (67.5%) reported no.In response to statement 7, i.e., Do you feel women prefer Unani treatment more than modern method of treatment, majority of the respondents (51.5%) reported yes. In response to statement 8, i.e., Any of your family members prefer traditional method of treatment if ill, majority of the respondents (80.5%) reported no. In response to statement 9, i.e., Do you feel traditional method is less costly than modern method, so people prefer it, majority of the respondents (74.5%) reported yes. In response to statement 10, i.e., Have you ever consulted a unani doctor for any problem, majority of the respondents (62.5%) reported no. In response to statement 11, i.e., Should people prefer unani method over modern medical treatment, majority of the respondents (75.5%) reported no. In response to statement 12, i.e., Is there any role of unani system of medicine in global health care, majority of the respondents (91.5%) reported yes. In response to statement 13, i.e.,Do you think unani medicine has a scientific explanation behind it, majority of the respondents (83.5%) reported yes. In response to statement 14, i.e., Can unani medicine prove to be a savior for people with chronical diseases, majority of the respondents (71.5%) reported yes. It is observed from our survey that in general people understudy possesses knowledge about use of medicinal plants for treatment but lack in attitude towards their use. The results are in agreement with the earlier studies

Table 3. Awareness and Attitude of Respondents towards Treatment via Unani Medicine

S. No	Statement	Response	Frequency	Percentage
1.	Do you have any idea about Unani system of medicine	Yes	167	83.5%
		No	33	16.5%
2.	Do you think Unani medicine are more effective than modern medicine	Yes	105	52.5%
		No	95	47.5%
3.	Do the people of Kashmir give unani method of medical treatment as much importance as modern treatments	Yes	43	21.5%
		No	157	78.5%
4.	Do you think that unani medicine have any side effects	Yes	153	76.5%
		No	47	23.5%
5.	Does Kashmir have enough unani Panchkarma Centre	Yes	45	22.5%
		No	155	77.5%
	Attitude of respondents towards unani medicine use			
6.	Which treatment you prefer in case of some health issue	Yes	65	32.5%
		No	135	67.5%
7.	Do you feel women prefer Unani treatment more than modern method of treatment	Yes	103	51.5%
		No	97	48.5%
8.	Any of your family members prefer traditional method of treatment if ill	Yes	39	19.5%
		No	161	80.5%

9.	Do you feel traditional method is less costly than modern method, so people prefer it	Yes	149	74.5%
		No	51	25.5%
10.	Have you ever consulted a unani doctor for any problem	Yes	75	37.5%
		No	125	62.5%
11.	Should people prefer unani method over modern medical treatment	Yes	69	34.5%
		No	151	75.5%
12.	Is there any role of unani system of medicine in global health care.	Yes	183	91.5%
		No	17	8.5%
13.	Do you think unani medicine has a scientific explanation behind it	Yes	167	83.5%
		No	33	16.5%
14.	Can unani medicine prove to be a savior for people with chronical diseases	Yes	143	71.5%
		No	57	28.5%

The data shown in Figure 1, revealed that majority of respondents (male=69.5%, female= 73.5%) were aware about unani medicine as a mode of treatment to cure diseases.

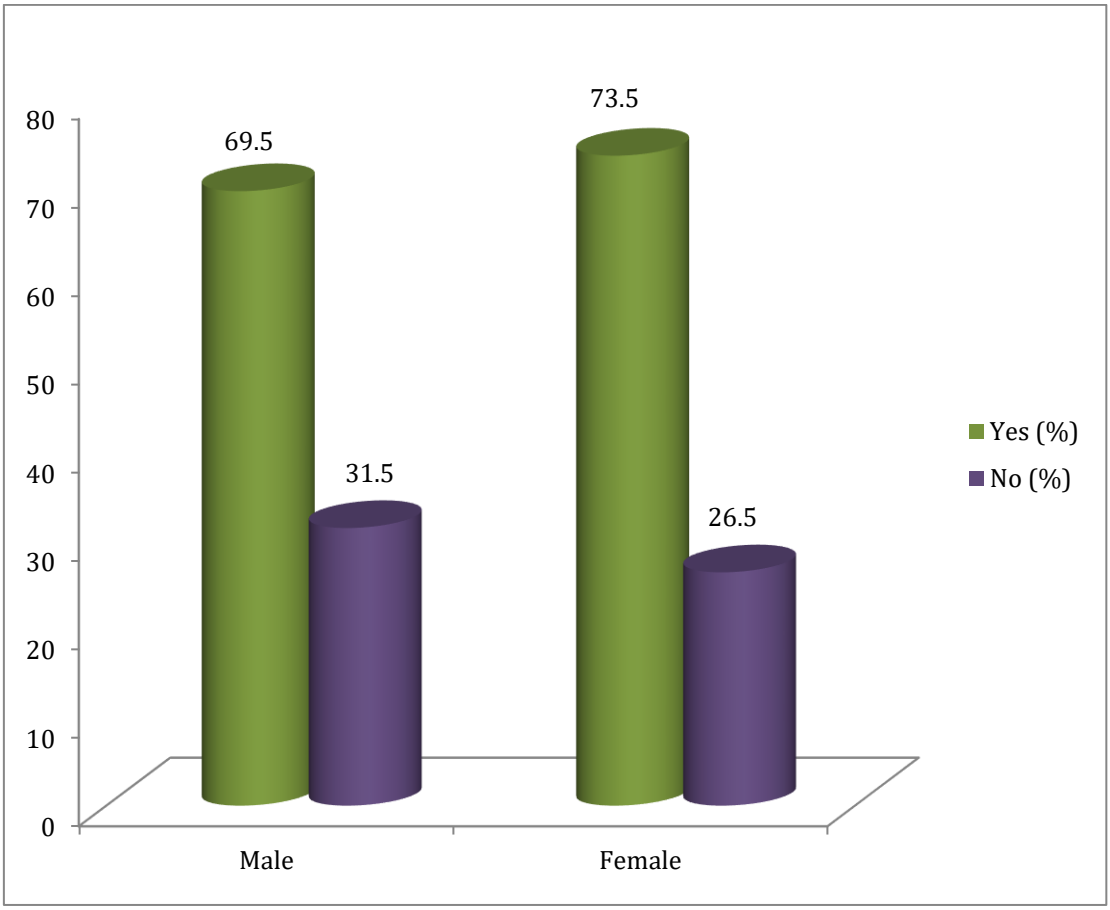


Figure 1. Awareness about Unani Medicine as a Mode of Treatment

The data shown in Figure 2, revealed that main source of information about unani medicine among respondents (male = 32.5%, female = 38.5%) were elders in family, followed by neighbors (male =17.0%, female = 20.0%) and followed by friends (male =15.0%, female = 18.5%). Media and physicians' availability also act as a source of awareness about unani medicine as a mode of treatment to cure diseases. We know awareness provides a material from which one develops idea about the subject so print and electronic media can play a very crucial role for the progress of unani medicine.

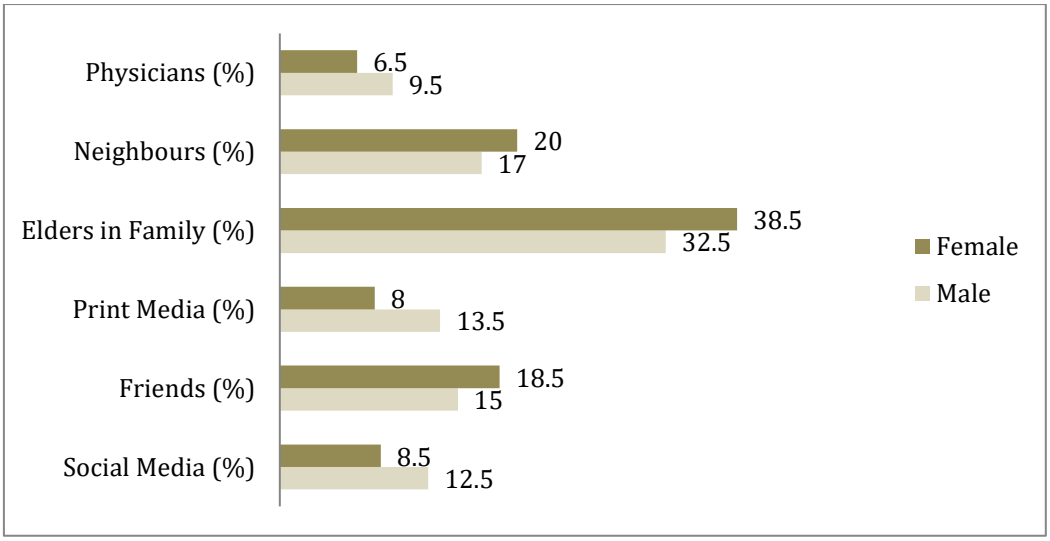


Figure 2. Source of Awareness about 'Unani Medicine' Among People Understudy

The data presented in Table 4, shows the preference of treatment among respondents' gender wise. Statistically, it has been observed that there was a significant difference between male and female respondents in preference of treatment ($P < 0.01$). Females in majority give first choice to unani treatment if given choice as they believe it has least side effects and is less costly.

Table 4. Gender wise Preferred Mode of Treatment for Illness among Respondents

Gender	First Choice of Treatment (%)	Second Choice of Treatment (%)	Third Choice of Treatment (%)	Chi Square	P-Value
Male	19(9.5)	139(69.5)	44(22)	14.685	<0.01
Female	43(21.5)	105(52.5)	52(26)		

The data presented in Figure 3, revealed that respondents understudy (male = 9.5%, female = 21.5%) reported that unani is their first choice of treatment against illness, respondents (male = 69.5%, female = 52.5%) reported that unani is their second choice of treatment against illness and respondents (male = 22.0%, female = 26.0%) reported that they don't prefer unani or any other treatment for illness. They reported that we chose treatment as per nature of disease. The group discussion revealed that generally, women prefer unani treatment to tackle pregnancy related problems as well as stone in kidney related issues whereas men prefer unani treatment to tackle fertility issues.

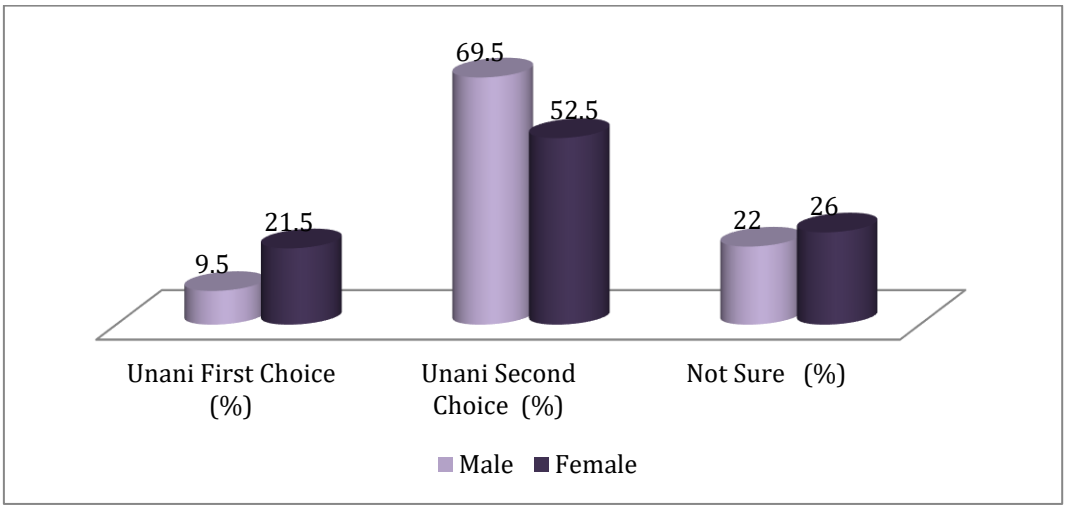


Figure 3. Preferred Mode of Treatment among Respondents in General

The data presented in Figure 4, revealed that respondents understudy (male = 47.5%, female = 54.5%) reported that they feel unani treatment is good for treatment of various diseases. It has minimum side effects and is less costly as compared to modern method of treatments.

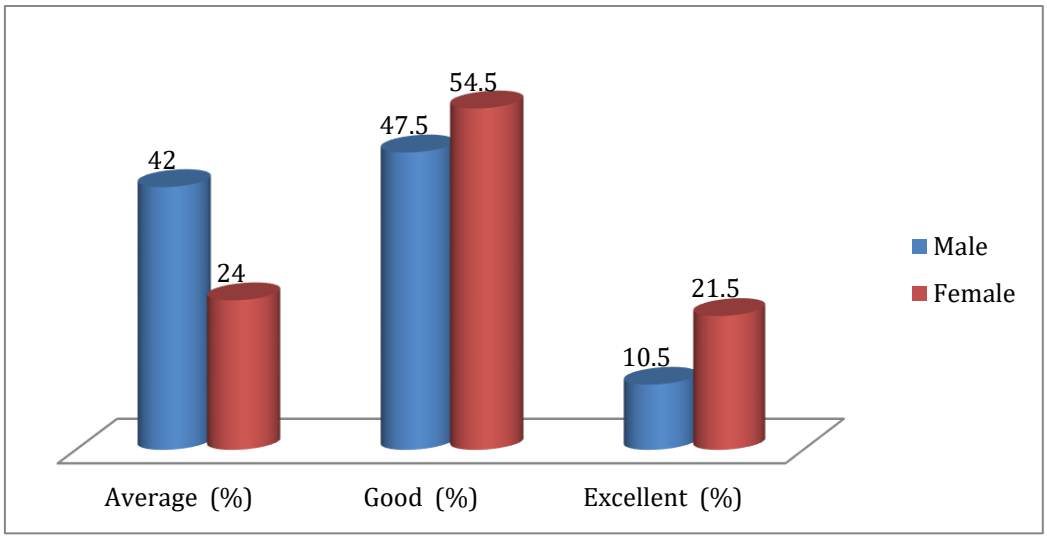


Figure 4. Satisfaction Level of Unani Treatment among Respondents

The data presented in Figure 5, revealed that majority (male = 45.5%, female = 39.5%) of respondent's male as well female reported that due to slow action of unani medicine we are not frequently using unani medicines. Further, respondents (male = 32.5%, female = 35.5%) reported that nonavailability of unani enough Physicians/hospitals is other reason for not using unani medicine for treatment frequently. The respondents (male = 12.5%, female = 17.5%) reported non availability of unani medicine and (male = 7.5%, female = 9.5%) are other reasons for not using unani medicine for treatment.

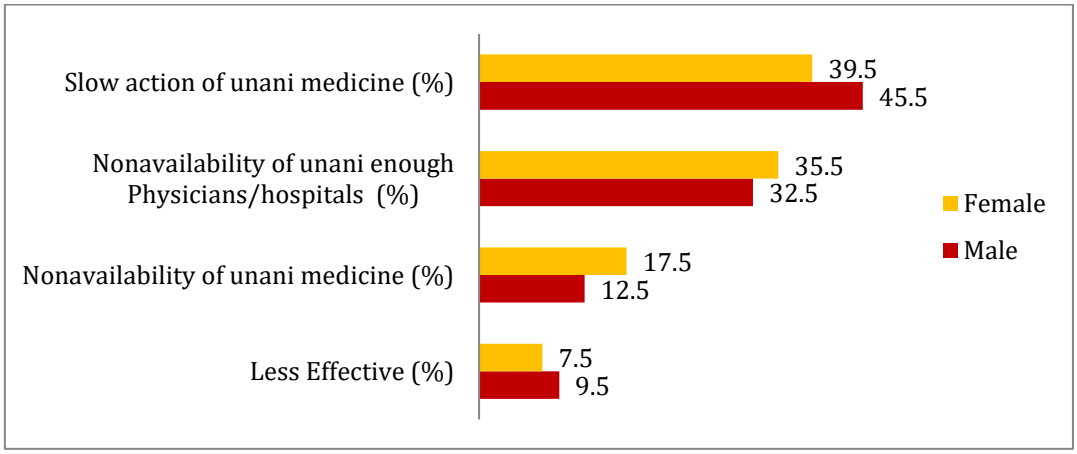


Figure 5. Possible Reasons for Not Using Unani Medicine for Treatment Frequently

The group discussion and field survey revealed that people especially in rural areas showed more interest in usage of traditional medicine and possesses good knowledge about plant medicines. The Gujjar and Baker Wal community revealed that they prefer traditional medicine for treatment as its easily available and less costly. Especially, elders possessed good knowledge about plant medicines and suggested people should use these medicine as they have least side effects. The researchers along with elders observed that lot of wild herbs grow in abundance in the forests, villages of Kashmir having tremendous medicinal value.

4. CONCLUSION

For millions of people worldwide, traditional medicine is the first line of defense against many diseases. As part of its efforts to improve the health of people and the planet, the Government of India and the World Health Organization (WHO) have established a WHO Global Centre for Traditional Medicine to harness the potential of traditional medicine worldwide. The use of traditional medicine has been reported in 170 out of 194 WHO Member States, indicating that around 80% of people worldwide use it for treatment. In today's modern world, traditional medicine is also becoming more prominent. It is estimated that pharmaceutical products use around 40% natural substances in their preparation, demonstrating the importance of preserving biodiversity and sustainability. The discovery of aspirin from the bark of the willow tree, as well as the development of contraceptives from wild yam roots, and the use of rosy periwinkle for treatment of child cancer, showed the potential of plant medicines. Nowadays, artificial intelligence is used to map evidence, trends in traditional medicine, and to screen natural products for pharmacokinetic properties. For mental health and wellbeing in stressful times, functional magnetic resonance imaging is used, and meditation and yoga therapies are also helpful. The present study conducted in central Kashmir revealed that female showed more interest in usage of Unani medicine than male respondents. In light of the high costs and side effects of allopathic medicine, traditional medicinal plants play a crucial role in meeting the primary health care needs of common people. The study area is fairly rich, not only in traditional medicinal plant species but also in traditional knowledge of these medicinal plants among the people of this area. The information generated from our study is expected to prove a profitable source for pharmacologists, phyto chemists, botanists and to those who are interested in alternative therapies development. The use of traditional medicine will increase the local industry on one hand and on the other hand reduce the spending incurred on the purchase of foreign drugs. The researchers during current survey consulted also herbal healers called “Bhoris” and Tribals (Gujjars and Bakerwals) to get the useful information about the medicinal plants use. It was suggested by researchers that special efforts should be made to conserve these resources for the benefit of future generation.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Bilal Ahmad Bhat	✓	✓	✓	✓		✓		✓	✓	✓		✓		
Shaikh Ghulam Rasool		✓	✓	✓		✓			✓	✓			✓	✓
Syed Sabahat Ashraf	✓	✓	✓	✓			✓	✓	✓		✓			
Arizo Jan		✓	✓				✓	✓					✓	✓
S. N. Z. Geelani		✓	✓	✓	✓		✓		✓	✓	✓			✓

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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BIOGRAPHIES OF AUTHORS

	**Bilal Ahmad Bhat**, is a Professor in the Department of Social Sciences at Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-Kashmir), Jammu and Kashmir, India. He holds a Ph.D. in Statistics and has academic and research expertise in statistics and multidisciplinary agricultural and fisheries-related social sciences. His research interests include statistical analysis, fisheries economics, social sciences, rural development, and socio-economic assessment. He has contributed to research on the social, economic, environmental, and cultural dimensions of natural resources and rural communities. Email: bhat_bilal@rediffmail.com
	**Shaikh Ghulam Rasool,** is associated with the School for Rural Development and Environment, Srinagar, Jammu and Kashmir, India. His research and professional interests include rural development, environmental issues, social development, and public participation. He has contributed to studies concerning rural communities, natural-resource management, social appraisal, and awareness of social and legal issues in Kashmir.
	**Syed Sabahat Ashraf,** is an Assistant Professor at Government Unani Medical College, Nawab Bagh, Ganderbal, Jammu and Kashmir, India. His academic and research interests are related to Unani medicine, traditional medicine, complementary and alternative therapeutic practices, and public awareness and perceptions concerning traditional healthcare. He has contributed to research examining traditional medicine and its applications in the Kashmir region.
	**Arizo Jan,** is associated with the Division of Fisheries Resource Management, Faculty of Fisheries, SKUAST-Kashmir, Rangil, Ganderbal, Jammu and Kashmir, India. His research interests include fisheries resource management, aquatic ecosystems, fisheries economics, fish biology and ecology, and sustainable utilization and conservation of aquatic resources. He has contributed to research on fisheries resources and environmental and economic aspects of fisheries in Kashmir.
	**S. N. Z. Geelani**, is associated with the Faculty of Forestry, SKUAST-Kashmir, Benihama, Watlar, Ganderbal, Jammu and Kashmir, India. His research interests include forestry, natural-resource management, environmental conservation, wetland ecosystems, and the socio-economic and ecological dimensions of natural resources. He has contributed to research on the social and environmental significance of Wular Lake and other natural resources of Kashmir.






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Field survey during 2022-23