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Traditional Medicinal Plant Practices among Rural Women of Bikaner District, Rajasthan

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Abstract:

Traditional medicinal plant knowledge forms an integral part of primary healthcare systems in rural India, particularly in arid regions where access to modern medical facilities is limited. This research was done to record the local medicinal knowledge of the rural women in the Bikaner district of Rajasthan. The research design used was descriptive research design and multistage random sampling technique to select 120 respondents in four villages in two panchayat samities. The data were gathered using structured and pre-tested interview schedule which included the socio-demographic features, and specific details concerning the preparation and the use of medicinal plants. The results revealed that the respondents extensively used plant based remedies to address common diseases like fever, cough, digestive problems, skin diseases, nausea, joint pains and dehydration. Some of the most common traditions were ginger tea, turmeric milk, lemonade, holy basil kadha, preparation of isabgol, fennel mixtures and khus-khus formulations. Unpopular were remedies based on raw ginger, clove preparations, ashwagandha mixtures and some amla preparations. This reliance on the native ways was explained by the availability, low costs, and cultural appropriateness of the native medicinal plants, especially in the areas with underdeveloped healthcare facilities. The paper shows the importance of rural women as preservers of traditional health knowledge and the significance of systematically preserving it to help communities health, conserve cultural and biodiversity.

Keywords: *Arid medicinal plants, Community health, Ethnobotany, Home remedies, Indigenous knowledge, Medicinal plants, Rural women, Rajasthan, Traditional practices*

Introduction:

Indigenous knowledge is a stock of wisdom, practices and beliefs that local and indigenous people have acquired over a long period of interaction with their natural environment. Berkes (2000) says that indigenous knowledge is dynamic and adaptive, as it is obtained by experience, informal experimentation and close observation of ecological systems. These knowledge systems are ingrained

into the culture of a region and are very essential in supporting livelihoods, health care, food security and environmental management especially in the rural areas.

Traditional Knowledge (TK) is also referred to as indigenous knowledge, but it can be described as community-based knowledge, oral generation-to-generation innovations and practices (World Intellectual Property Organization [WIPO], 2021). It is held collectively and is manifested in folklore, ritual, belief, language and tradition. TK is mainly applied and is much used in agriculture, forestry, fisheries and traditional medicines. Recent reports underscore the idea that traditional medicinal knowledge continues to play a leading role in healthcare provision to millions of individuals all over the world, particularly in developing states where there is limited access to modern health care facilities (WHO, 2023).

The reliance on plants as a source of medicine is as old as the history of humanity. With the help of trial and error, ancient people found out a series of plant species that had a therapeutical effect and established herbal preparations to cure several diseases (*et al.,* 2025). This knowledge over the centuries developed into coherent traditional medical systems like Ayurveda, Unaniand Traditional Chinese Medicine (TCM) (Verma *et al.,* 2024). Bioactive compounds found in medicinal plants are alkaloids, flavonoids, phenolicsand terpenoids, which have antioxidant, antimicrobial, anti-inflammatory and immunomodulatory effects (Singh *et al.,* 2021).

According to the definition developed by the World Health Organization, traditional medicine refers to the totality of knowledge, skills and practices rooted in cultural beliefs and experiences applied in the upkeep of health and in treating diseases (WHO, 2019). Recent global estimates suggest that almost 80 per cent of the global population depends on traditional medicine as the source of some types of primary healthcare (WHO, 2023). In India, around 70 percent of the population still relies on the use of traditional remedies, which are all plant-based especially in rural and tribal areas (Patwardhan *et al.,* 2020).

India has been known to be one of the wealthiest reservoirs of medicinal variety of plants and indigenous medicine in the world. Ethnobotanical researches in different states revealed that approximately 2,500 plant species are utilized in traditional healthcare, and around 100 of them were used on a regular basis (Sharma 2022). Rural women are the keystones to this knowledge maintenance and transfer since most of them are the ones who keep healthcare choices of their homes, prepare herbal remedies and caregiving operations (Kurtkoti and Joshi, 2024).

Rajasthan is the biggest state in India and it has arid and semi-arid climatic conditions with low agricultural productivity. These environmental limitations notwithstanding, the area has a high number of medicinal plants that are adapted to desert environments. It has been noted in the past that the native species of plants have extensively been used to treat common illnesses like fever, digestive disorders, skin infections, respiratory problems, and joint pain in Rajasthan (Singh *et al.,* 2023; Sharma and Alam,

2023). The use of traditional medicinal practices is also relevant especially in the rural settings where accessibility of modern healthcare facilities is still inadequate.

Plants in Rajasthan also have important cultural and symbolic importance, which is represented in folklore, ritualsand religious traditions (Nagar *et al.,* 2025). There are also the species like Prosopis cineraria (Khejri) and Ficus religiosa (Peepal) which are respected in terms of ecological, medicinaland spiritual significance (Sharma, S. and Kumar, R., 2020). Nevertheless, recent studies caution that the traditional medicinal knowledge is slowly disappearing due to the fast modernization, deforestation, migration, and lack of interest in younger generations (Rathore *et al.,* 2023).

Here, the documentation of traditional medicinal practices with plants should be systematic to maintain the indigenous knowledge, enhance sustainable healthcare system and biodiversity. It is specifically important to pay attention to the rural women of the Bikaner district as they are the prime holders of ethnomedicinal knowledge and they are the major health custodians of the households. This research paper seeks to record and describe the traditional medicinal plant use by the rural women of the Bikaner district, Rajasthan, in order to preserve the rich indigenous knowledge and aid in future investigation of ethnobotany and traditional medicine.

Objectives:

- To examine the socio-personal attributes of the rural women that are linked with the use of traditional medicinal plant knowledge.
- To record indigenous use of medicinal plants by rural women and resulting plants and their preparation methods used by them.

Methodology:

The research design used was descriptive research design in order to record the medicinal practices practiced in the rural areas by the women which were indigenous. The study was carried out in Bikaner district, Rajasthan that had been selected purposefully because of the strong culture of arid-zone medicinal plants use and the few systematic records that existed in the area.

The respondents were sampled using a multistage sampling method. Bikaner and Kolayat out of the nine panchayat samities in the Bikaner district were chosen through the lottery system. Two gram panchayats with random sampling were selected under each samiti chosen panchayat, which is: Kanasar and Bachhasar (Bikaner) and Kolayat and Gajner (Kolayat). A gram panchayat of one village was sampled and 30 rural women were randomly chosen out of the gram panchayat, which made the total sample of 120 respondents.

The structured interview schedule was designed to gather data, which was created with regard to Arya (2016) and adjusted to the purposes of the study considering the recommendations of the experts in the field of Community Science and Agricultural Extension Education. The questionnaire was divided into two parts general socio-personal characteristics and indigenous medicinal plant

practices, such as types of plant used methods of preparation and purpose of use. The instrument was pretested on 20 non-sample respondents and required adjustments were done before final data collection.

Data statistical analysis:

The questionnaire information obtained through 120 respondents were coded, tabulated and analyzed with the use of descriptive statistic techniques. Background characteristics were analysed by frequency and percentage to document indigenous medicinal practices in reference to the use of medicinal plants. The research findings were made based on the study objectives.

Results:

The findings of the current research are rather broad distribution of the socio-personal attributes of rural women and the degree to which the traditional practice of using medicinal plants is implemented in the Bikaner district of Rajasthan.

Table 1: Represent the socio-personal background of the participants (N=120)

Parameter	Category	F	%	Total (N)
Age	Lower age group (> 42)	15	12.50	120
	Middle age group (42 to 67)	87	72.50	
	Upper age group (< 67) Mean: - 54.05, SD: - 12.9	18	15	
Caste	SC/ST	30	25	120
	OBC	48	40	
	General	42	35	
Family type	Nuclear	32	26.70	120
	Joint	88	73.30	
Family size	Small (up to 4 members)	34	28.30	120
	Medium (5 to 8 members)	52	43.30	
	Large (above 8 members)	34	28.30	
Education	Illiterate	29	24.20	120
	Primary	56	46.70	
	Secondary	10	8.30	
	Senior secondary	7	5.80	
	Undergraduate	13	10.80	
	Postgraduate	5	4.20	
	Agriculture	63	52.50	120
	Business	30	25	

Family occupation	Service	12	10	
	Labor	15	12.50	
Social participation	No member in any social organization	120	100	120
	Member of social organization	0	0	
	An office bearer of social organization	0	0	
Mass media exposure	Low exposure (<0.58)	20	16.67	120
	Medium exposure (0.58-2.08)	100	83.33	
	High exposure (>2.08) Mean: - 1.33, SD: - 0.74	0	0	

The majority of respondents (72.50%) were middle-aged, with a mean age of 54.05 years (SD = 12.9). OBC respondents constituted the largest caste group (40%), followed by General (35%) and SC/ST (25%). Most respondents lived in joint families (73.30%)and 43.30 percent had medium-sized households, while small and large families each accounted for 28.30 per cent.

Nearly half of the respondents had primary education (46.7%), whereas 24.20 percent were illiterate. Only a small proportion had completed higher levels of education. Agriculture was the principal occupation for 52.5% of respondents, followed by business (25%), wage labor 12.50 percentand service (10%).

All respondents reported no involvement in social organizations, a trend consistent with findings reported by Shekhawat (2024). Mass media exposure was predominantly moderate (83.33%), with the remainder reporting low exposure. The mean mass media exposure score was 1.33 (SD = 0.74), indicating generally limited media engagement.

Arid medicinal plants:

1. **Anola (Amla) (*Phyllanthus emblica L.)***

The respondents according to table 2 data most commonly use raw anola which is an indigenous practice to enhance immunity with 59.20% of the respondents using anola juice (50%), in treating fever and cough and digestion. Anola kadha was used to treat relief fever and cough by 20.83 percent and 16.7 percent preferred anola candy as a mouth freshener and a cure to skin or hair related issues. Essentially the same number of respondents 8.30 percent used dry anola to enhance digestion and enhance visionand anola turmeric paste to treat skin infections. The results are also consistent with the results of Dashahre *et al.,* (2014). They said that Anola is applied to treat fever as jaundice and it does not harm hair and skin either.

2. **Aloe vera (*Aloe barbadensis*)**

Based on Table 2, it is evident that most respondents 77.50 percent used aloe vera juice with lemon juice, is a dandruff remedy. A slightly lesser percentage (75) indicated that they used Aloe vera

gel as a direct skin application to address pimples, minor skin cuts and wounds. Moreover, 12.50 percent of the respondents made a paste of aloe vera gel mixed with turmeric that was used to heal the wounds. A lower percentage, 6.70 percent of the respondents used aloe vera juice in the management of diabetes and in the detoxification process. It was also noted by Singh and Yadav (2014) that Aloe vera juice is effective in detoxification and management of the sugar levels in the blood. Equally Verma et al. (2015) determined that Aloe vera is very effective in the treatment of skin and hair diseases like pimples, dandruff, among others.

3. Ashwagandha (*Withania somnifera*)

The data in the table 2 suggests that the lowest percentage of respondents (11.70) used ashwagandha root powder mixed with hot milk at night as it was mainly used as a conventional treatment of insomnia. A lesser percentage (7.50) consumed ashwagandha powder, which is primarily done to improve male fertility and in the treatment of ulcers.

Table 2: Distribution of respondents by indigenous practices regarding Arid medicinal plants

N=120

S. No.	Indigenous Practices	f	%
Arid medicinal plants			
1.	**Anola [*Amla*]**		
	a) Raw anola: - Eat raw anola in season. [Immunity booster]	71	59.20
	b) Anola juice: - Blend 4–5 chopped amlas with 1 cup of water, strain the juiceand add sugar, black salt, or cumin seeds to taste. [Fever and cough, digestion]	60	50
	c) Dry anola: - Wash, cut, deseed amlasand then sun-dry them for a week. [Digestion and skin and hair]	10	8.30
	d) Anola candy: - Deseed 500g amlas, soak in 500g sugar/jaggery for 2–3 days: then sun-dry for 2–3 days, turning daily. Add black salt, dry ginger, or cardamom as desired. [Mouth freshener, skin and hair problems]	20	16.70
	e) Anola turmeric paste: - Mix 1 tbsp amla powder, ½ tsp turmericand 1½ tbsp rose water. [Skin infection]	10	8.30
	f) Anola kadha: - Boiled 1 tbsp amla powder with 5–6 tulsi leaves and 2 black peppers in 2 cups of water, then let it reduce to ½ cup. [Fever and cough]	25	20.83
2.	**Aloe vera**		
	a) Aloe vera gel: - Direct rub on the affected skin. [Pimples,	90	75

	cuts and wounds]		
	b) Aloe vera juice: - Blended 2 tbsp aloe vera gel, 1 cup cold waterand 1 tsp lemon juice until smooth, then strained to remove pulp. [Diabetes and detoxification]	8	6.70
	c) Aloe vera gel and turmeric paste: - Aloe vera gel mix with ½ teaspoon of turmeric and 1 tbsp of coconut oil [Wound]	15	12.50
	d) Aloe vera lemon juice: Aloe vera gel was mixed with ½ teaspoon of lemon juice and applies it on hairs. [Dandruff]	93	77.50
3.	**Ashwagandha**		
	a) Ashwagandha mixture: - Musli power (1 tbsp), ashwagandha powder (1 tbsp)and satavari powder (1 tbsp) mixed with 1 cup of milk. [Male fertility, ulcer]	9	7.50
	b) Ashwagandha root powder: - 5 g of ashwagandha root powder mixes with 1 cup of hot milk and is drunk at night. [Insomnia]	14	11.70
4.	**Babool**		
	a) Datun: - Brush teeth with babul datun (branches) [For teeth and gum health]	37	30.80
5.	**Harad**		
	a) Harad mixture: - Mix ¼ tbsp of hara powder with ½ glass of lukewarm water: drink at night. [Constipation]	12	10
	b) Harad paste: - Mixture of 6-8 tulsi leaves, nutmeg, harad, ajwainand brahmin tablet (goli). [Fever]	30	25
6.	**Broom bush [*Kheep*]**		
	a) Stem liquid: - Squeeze the kheep stem, collect its liquidand use it on insect bites. [Insects bite]	34	28.30
7.	**Lemon**		
	a) Lemonade/ Shikanji: - Lemon juice, sugar, saltand roasted cumin seeds mix with cold water. [Dehydration]	120	100
	b) Raw lemon: - (i.) Squeezes lemon juice directly into the mouth.[Nausea] (ii.) Mix half a lemon into lukewarm water. [Nausea and vomiting]	23 45	19.20 37.50
	c) Lemon: - Mix lemon juice with black pepper, black	9	7.5

	saltand roasted jeera, then heat slightly. [Vomiting]		
8.	**Neem**		
	a) Neem paste: - Paste of fresh neem leaves applied on acne, cutsand wounds. [Skin infection]	19	15.80
	b) Mosquito repellent: - Fumigate dried neem leaves and plant parts with ghee. [Repel mosquitoes.]	23	19.20
	c) Neem fronds: - Neem fronds tied around the bed of patient: [Chicken pox.]	52	43.30
	d) Neem infused water: -Boil neem leaves in water for 10–15 minutes until the water turns green and aromatic. Allow it to cool, then strain out the leaves. The neem-infused water can be used as a rinse for hair after shampooing, or added to bathwater [Skin and hair problems]	97	80.80
9.	**Giloy**		
	a) Giloy kadha: - (i.) Boil 1 glass of water with 1-inch giloy, 2–3 tulsi leaves, 8–10 coriander seeds, piece of small gingerand 2–3 mishri until it reduces by half to make kadha.[Immunity boosting and common cough cold]	50	41.70
	(ii.) Boil giloy stem, 2–3 black peppersand ½ tbsp sugar in water until reduced by half. [Fever]	110	91.60
	b) Giloy juice: - Grind a 6–8-inch of fresh -giloy stem with water, strain the juiceand optionally add 1 teaspoon of lemon juice and 1 teaspoon of honey. [Diabetes]	35	29.16
10.	**Bitter apple [*Tumba*]**		
	a) Tumba seed powder: - Roast tumba seeds, isabgol, ajwainand cumin seeds without oil, grindand take 1 spoon daily on an empty stomach. [Constipation]	50	41.70

4. Babul (*Vachellia nilotica*)

The respondents were told to clean their teeth with a datun; based on the data in table 2, 30.80 percent of the respondents clean their teeth with babul. It has been extensively used to reinforce gums

and maintain the dental hygieneand is even now considered as a method of preventing the widespread problems of the teeth. Chaturvedi (2017) emphasized that twigs of babul are still a renewable and consistent alternative to keeping oral hygiene. They are used as natural toothbrushes that are deeply rooted in traditional medicinal practices.

5. Harad (*Terminalia chebula*)

As it is presented in Table 2, 25 percent of participants used harad paste as a traditional remedy to fever. In the meantime, 10 percent used hard powder in warm water at night to relieve constipation. These rituals point out the harad which is applied in curing fever and digestive problems among the people. The results are consistent to Bag *et al.,* (2013), who indicated its antioxidants and antimicrobials properties and thus its role in the treatment of fever and gastrointestinal diseases.

6. Broom bush (Kheep) (*Leptadenia pyrotechnica*)

As it is observed in table 2, 28.30 percent of the respondents applied kheep stem juice in the treatment of insect bites; they thought that it was effective in alleviating irritationand minimizing the discomfort of insect bites.

7. Lemon (*Citrus limon*)

As shown in table 2, lemonade (Shikanji) was used by the whole set of respondents, cent percent, as a traditional refreshing drink in order to avoid dehydration during summer season. Moreover, 37.50 percent of the respondents indicated that they self-administered raw lemon in a combination with lukewarm water, whereas 19.20 percent of the respondents resorted to the direct intake of lemon juice that was squeezed to the mouth. The two practices were widely viewed as effective treatment of nausea and vomiting. A lower percentage 7.50 percent took the lemon jeera to control vomiting and digestion. The results are comparable with the results of Rathore, H. (2017) indicated that the lemon is used to treat the vomiting.

8. **Neem (*Azadirachta indica*)**

In accordance with the data in table 2, a large proportion of respondents 80.80 percent used neem-infused water to treat skin and hair problemsand 43.30 percent used neem fronds tied around the bed of the patient to treat chicken pox. Also, 19.20 percent of the respondents used mosquito repellents and a minimum of respondents of 15.80 percent used neem paste prepared using fresh leaves to treat the skin infections. The results are correlated with the results of Rathore, H. (2017) who stated that the chickenpox is treated with the neem fronds.

9. Neem Giloy (*Tinospora cordifolia*)

Table 2 shows the wide use of neem giloy preparations by the respondents. Most respondents 91.60 percent reported using kadha(i) to increase the immunity and to relieve the effects of cough and coldand a significant percentage of the respondents (41.70 percent) used kadha(ii), which was mainly used to treat fever, coughand dengue. Also, 29.16 percent said they take giloy juice to help them control

diabetes. Such results highlight the leading importance of neem giloy in homemade medicines.

10. Bitter apple (Tumba) (*Citrullus colocynthis*)

Table 2 indicates that (41.70) of the respondents used bitter apple (tumba) powdered seed as a house remedy in constipation. In this traditional formulation, the role of tumba in enhancing the digestive wellbeing is emphasized and its importance on the indigenous healthcare practice.

Common medicinal plants

Table 3: Distribution of respondents by indigenous practices regarding Common medicinal plants **N=120**

S. No.	Indigenous Practices	f	%
	Common medicinal plants		
1.	**Malabar nut [*Adusa, Vasa*]**		
	a) Kadha: - Steam fresh adusa leaves, extract the juice, mix with honeyand give to children over 2 years. [Fever and cough]	14	11.70
2.	**Ajwain**		
	a) Roasted ajwain: - Roast ajwain until aromatic, make a cotton potli, rub on children‟s chest or give to adults. [Common cough and cold]	103	85.88
	b) Paste: - Ajwain, pipali, tulsiand neem leaves are ground togetherand sugar or salt is added according to age. [Cough and cold, respiratory issue]	52	43.30
	c) Mixture: - Sauté 100 grams of ajwain and 25 grams of rock salt, then mix them together to prepare a mixture. [Indigestion and gas]	54	45
	d) Drink: - Mix ½ tbsp of roasted ajwain and a pinch of rock salt in one glass of buttermilk. [Digestion an acidity]	30	25
3.	**Clove [*Laung*]**		
	a) Clove water: - Boil 7–8 cloves in 1 liter water and drink throughout the day. 1-2 cups in a day. [Typhoid]	98	81.70
	b) Chew raw clove: - Chew a clove to relieve tooth pain. [Tooth ache]	73	60
	c) Paste: - Crush cloves with salt and milk and prepare a thick paste. [Headache]	7	5.80
	d) Clove kadha: - Boil 4–5 cloves and a 1-inch piece of ginger in 2 cups of water until it reduces to 1.5 cups, then strain,	11	9.16

	add 1 tablespoon of honeyand drink warm. [Throat infection]		
4.	**Coriander seeds [*Dhaniya*]**		
	a) Coriander kadha: - (i.) Coriander seeds, turmeric, dry ginger and mishri in 1 glass of water. [Fever and cough] (ii.) Boil coriander seeds and mishri in 1 glass of water. [Common cold and cough]	24 114	20 95
	b) Coriander water: - Boil coriander seeds in 1 glass of water, when water remain half in quantity then use it. [Period cramps]	65	54.20
5.	**Cumin seeds [*Jeera*]**		
	a) Cumin kadha: - Boil ½ tbsp of cumin seeds, 5-6 tulsi leaves in 1 glass of water, add rock salt and use it. [Digestive problems]	37	30.83
	b) Cumin tea: - Boil cumin seeds, 4-5 tulsi leaves, a pinch of black pepperand a bit of jaggery/honey with water, strainand use it. [Throat infection]	21	17.50
6.	**Fennel seeds [*Saunf*]**		
	a) Fennel seeds with raw milk: - Soak 20 g of fennel seeds and 5–7 almonds overnight, grind with ½ glass of raw milk. [Body coolness]	30	25
	b) Fennel seeds mixture: - Grind 100g fennel seeds, 100g almonds, 50g khus-khusand 50g black pepper into powder form. [Improve eyesight]	110	91.70
	c) Fennel seeds paste: - Grind 1 tbsp fennel seeds and 1 tbsp khus-khus into a paste. [Joint pain]	96	80
	d) Fennel seeds: - Eat 1 tbsp fennel seeds daily after meals as a mouth freshener. [Mouth freshener]	111	92.5
7.	**Fenugreek seeds [*Methi*]**		
	a) Soaked fenugreek seeds: - Soak 10g fenugreek seeds overnight; chew seeds and drink water. [Diabetes]	27	22.50
	b) Fenugreek (methi ladoos): - Roast and grind 50 g fenugreek 25 g ajwain. Roast 100 g flour in 100 g ghee mix spices. Mel 150 g jaggery, combine, cooland shape into ladoos.[Knee and	69	57.50

	joint pain]		
	c) Fenugreek mixture (Phaaki): - Make a mixture of 100g fenugreek seeds, 100g ajwainand 50g black salt. [Constipation]	31	25.80
8.	**Garlic**		
	a) Raw garlic: - Eat one garlic clove daily in the morning. [Blood pressure]	41	34.16
	b) Garlic with mustard oil: - Boiled one garlic clove with mustard oil. [Ear pain]	27	22.50
9.	**Ginger**		
	a) Ginger tea: - Boil a small piece of ginger in water for 1 minute. Add black tea leaves and cook for 2–3 minutes. Add milk and sugar (if required) and bring to a boil after that. [Headache]	120	100
	b) Ginger lemon tea: - Boil a 1-inch ginger slice in 2 cups of waterand add 1 tbsp of lemon juice with 1 tbsp of honey. [Fever and cold]	60	50
	c) Raw ginger: - Eat a small raw ginger slice sprinkled with salt. [Nausea and vomiting]	13	10.80
10.	**Isabgol**		
	a) Isabgol with milk/water: - Mix 1–2 tbsp of Isabgol in hot water or milk and drink daily at night. [Constipation]	114	95
	b) Isabgol with curd: - Mix 1-2 tbsp of Isabgol with ½ bowl of curd. [Diarrhea]	72	62.50
11.	**Poppy seeds [*Khus-Khus*]**		
	a) Khus-khus mixture: - Grind 50gm khus-khus, 100g almonds, 100gm fennel seedsand 50g black pepper into powder form. [Improve eyesight]	110	91.70
	b) Khus-khus paste: - Grind 1 tbsp khus-khus and 1 tbsp fennel seeds into a paste. [Joint pain]	96	80
	c) Khus-khus paste: - Soak 2 tbsp of khus-khus in water overnight, then grind them into a fine paste using 1 tbsp of water. Heat 2 cups of milk, add the pasteand cook on low flame for 5–7 minutes. [Body cooling]	21	17.50
12.	**Mint leaves**		

	a) Mint leaves: - Eat fresh mint leaves. [Mouth freshener]	17	14.20
	b) Dry mint leaves: - Wash 1 cup of mint leaves, dry in shade for a few daysand powder them finely. [Body cooling]	95	79.20
13.	**Holy basil [*Tulsi leaves*]**		
	a) Holy basil ginger tea: - Boil a small piece of ginger and 6–8 tulsi leaves in water for 1 minute. Add black tea leaves and simmer for 2–3 minutes. Then add milk and sugar (if needed) and bring to a boil. [Headache]	110	91.60
	b) Holy basil kadha: - Mixed tulsi extract, ¼ tbsp black pepperand 1 tbsp honey into a cup of hot water. [Fever and Common cold and cough]	118	98.30
	c) Holy basil kadha: - Crush 10–12 tulsi leaves with 1–2 panbrahmi tablets and some mishri, then transfer the mixture to a heated brass bowl. [Fever]	79	65.80
	d) Holy basil with honey: - Mix the extract of 7–8 tulsi leaves with ½ tbsp honey and give it at bedtime. Don't drink water for 1–2 hours after that. [Common cough and cold: especially in throat infection]	89	74.16
14.	**Turmeric**		
	a) Turmeric milk: - Add 1 tbsp of turmeric powder to 1 glass of milkand sugar if required. [Fever, cough and cold, joint pain]	120	100
	b) Turmeric paste: - Mixed 1 tbsp of honey with ½ tbsp of turmeric to form a paste, then apply it to the affected area. [Blisters]	52	43.30

Common medicinal plants:

1. Malabar nut (Adusa/Vasa) (*Justicia adhatoda*)

Table 3 showed that about 11.70 percent of the respondents used kadha prepared using adusa leaves as a traditional medicine administered on children over the age of two years. This was mainly applied to treat fever and cough symptoms.

2. Ajwain (*Trachyspermum ammi*)

Table 3 demonstrates that a huge proportion of the respondents (85.88) have mentioned that they have used roasted ajwain, whether tied in cotton pouch (potli) and applied to the chests of children or used by adults, as a common cure to cough and cold. Almost half of the respondents (45%) administered an ajwain blend to ease indigestion and 43.30 percent made a paste of ajwain and applied

it in healing respiratory issues. A reduced percentage of 25 percent took ajwain drink to promote digestion and reduce acidity. Such results indicate the multiple action of ajwain in respiratory and gastrointestinal functions.

3. Clove (Laung) (*Syzygium aromaticum*)

The significant presence of cloves in the traditional home-based remedies is pointed in Table 3. Most of the respondents (81.70) relied on clove water in its management of typhoid, 60 percent on chewing raw cloves to get rid of toothaches and clove as a dental care aspect is significant. Laung used 9.16 percent as a treatment of a throat infectionand a smaller percentage (5.80) put a paste of cloves on themselves to relieve headaches.

4. Coriander seeds (Dhaniya) (*Coriandrum sativum*)

According to the data provided in table 3, most of the respondents (95%), applied coriander kadha (ii) to cure any symptoms of cold and cough whereas 54.20 percent used coriander water to treat period cramps. The smaller 20 percent of the respondents were ready to make coriander kadha (i) to treat fever and cough.

5. Cumin seeds (Jeera) (*Cuminum cyminum)*

Based on the tables in Table 3, the moderate segment of respondents (30.83) had cumin kadha as a solution of digestive issuesand a small group of respondents (17.50) made cumin tea to relieve throat infections.

6. Fennel seeds (Saunf) (*Foeniculum vulgare*)

According to the data provided in Table 3, a substantial majority of the respondents (92.50%) claimed to be using fennel seeds as a mouth freshener after the mealand 91.70 percent of them admitted to using a combination of fennel seeds to improve their vision. Moreover, 80 percent of the participants used fennel seeds paste to treat joint pains as compared to a small proportion of 25 percent of participants taking the fennel seeds mixed with raw milk to cool the body.

7. Fenugreek seeds (Methi) (*Trigonella foenum-graecum*)

Table 3 data indicate that the largest proportion (57.50) of the respondents took ferenugreek as ladoos to treat knee and joint pain and 25.80 percent of the respondents took ferenugreek mixture (Phaaki) to treat constipation. About 22.50 percent of the respondents made use of soaked fenugreek seeds to treat diabetes.

8. Garlic (*Allium sativum*)

Most of the respondents (34.16) recorded as using of raw garlic each morning to help control their blood pressure at a glance of table 3, as compared to 22.50 percent of the respondents who used and recorded the use of garlic with mustard oil as treatment of ear pain. The results correspond to the ones by Rathore, H. (2017), who indicated that the ear pain was being alleviated with the aid of a garlic clove boiled in mustard oil.

9. Ginger (*Zingiber officinale*)

Summary of the table 3 according to which the cent percent respondents participated in ginger tea as a native practice as a widespread symptom alleviation to the headache. One-half (50) of the respondents preferred ginger lemon tea relieve as a fever and cold remedy. The respondent had a lower percentage (10.80 percent) that consumed raw ginger cuts with salt to decrease nausea and vomiting. These results demonstrate a broad use of ginger in the treatment of both acute and chronic pains.

10. Isabgol (*Plantago ovata*)

Table 3 shows that most of the respondents (95%), used Isabgol combined with either hot water or hot milk at night in order to relieve constipation. Isabgol with curd was taken by another 62.50 percent to treat diarrhoea. The above results indicate the dual advantage of Isabgol in terms of its ability to support digestive health: constipation and diarrhoea.

11. Poppy seeds (Khus-Khus) (*Papaver somniferum*)

Based on the statistics shown in Table 3, a considerable percentage of forty-one respondents of 91.70 percent used a khus-khus mix to improve vision. Next in line was (80%) who applied khus-khus paste with the view of pain relieving on the joints. A smaller portion 17.50 percent consumed khus-khus paste mixed with milk which was mainly used to cool down the body.

12. Mint leaves (*Mentha*)

Table 3 indicates a twofold position of mint in household remedies. Most of the respondents (79.20) consume as powdered form, to cool the body, whereas only 14.20 percent consume fresh mint as a natural mouth freshener. Such practices can be used to highlight the importance of mint in encouraging internal cooling and oral health.

13. Holy basil (Tulsi leaves) (*Ocimum tenuiflorum*)

Based on the information provided in the table 3, most of the respondents (98.30%) took holy basil kadha in order to get relief against fever, common cold and cough, with a following 91.60% who took holy basil ginger tea to relieve headaches. Respondents were found to use holy basil with honey as a medicine against cough, coldand throat infections (approximately 74.16 percent), whereas a lower percentage of the respondents applied holy basil kadha as a cure to fever (65.80 percent).

14. Turmeric (*Curcuma longa*)

Table 3 shows that cent percent of the respondents reported consuming turmeric milk as a common remedy for fever, cough, coldand joint pain. Additionally, 43.30 percent applied a turmeric paste made by combining turmeric with honey for treatment of blisters.

This might be due to the fact that most respondents depend on indigenous medicinal practices because locally available plants are affordable, easily accessibleand well suited to the local environment. In Rajasthan, particularly in districts like Bikaner where agriculture is largely rain-fed and healthcare infrastructure is limited, such remedies serve as a practical and reliable source of

treatment. The preference is also rooted in the strong cultural trust placed in Ayurveda, which is often considered more effective and safer than modern medicines. Rural women, as key custodians of this traditional knowledge, play an important role in sustaining these practices and transferring them across generations. The renewed interest in herbal remedies during the COVID-19 pandemic further strengthened this dependency, as communities increasingly turned to natural methods for immunity enhancement and overall health management.

The findings supported with the findings of Dashahre *et al.,* (2014), Arya (2016) and Rathore, H. (2017) they reported documentation of various indigenous practices related to medicinal plants for common diseases such as fever, common cough and cold, diarrhoea, constipation, ear pain, head ache etc. were followed by rural women.

Conclusion:

The research methodology was a well-organized descriptive research design aimed at recording the aboriginal medicinal plants usage among the rural women in the Bikaner district. The study adopted a multistage random sampling technique to ensure representative sample is selected throughout the panchayat samities, gram panchayats and villages resulting in the final sample size of 120 respondents. The data were collected using a well-designed and pre-tested structured interview schedule, which encompassed not only the socio-demographic aspects but also a broad range of the indigenous knowledge. This research design was a powerful basis of obtaining the traditional medicinal practices of the plant women in the region of the study in the best way possible. The most used native practices according to the respondents were ginger tea, turmeric milk and lemonade/shikanji and the most consumed indigenous practices were holy basil kadha (98.30%), isabgol with milk/water (95%), fennel seeds as a mouth fresher (92.50%), fennel seed mixture and khus-khus mixture (91.70% each)and holy basil ginger tea(91.60%). Meanwhile, the practices least adopted were raw ginger as a nausea/vomiting treatment (10.80%), clove paste as a headache treatment (5.80%), giloy juice (4.20%), clove-ginger kadha (3.50%), jeera tulsi tea (3.30%)and raw garlic (2.50%). These results suggest that although the use of turmeric, ginger, tulsi, fennel and khus-khus were widely accepted, some remedies like raw garlic, jeera tulsi tea and clove-ginger kadha were hardly used.

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