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Practices of using home remedies as an immunity booster during COVID-19

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Abstract

Ayurveda is a traditional medicine that was used under numerous copious of medicine to cure and prevent various diseases. The sudden outbreak of coronavirus which was a major threat to life came into existence in 2020 and had an adverse effect on the immune system of the people, so to fight against coronavirus various home remedies were consumed as an immunity booster during COVID-19. The survey was conducted to study the practices of using home remedies by middle-aged people (40-60) as in this period, the aginge process started which causes a decline in the competence of immune function to fight against the virus. It was conducted on 120 subjects, of which 60 males and 60 females were selected of Udaipur city, Rajasthan. A well-structured questionnaire was developed and the data was collected randomly on the ease of availability of the subjects. From the findings, it was concluded that the (75%) majority of middle-aged people consumed home remedies; the major spices and herbs consumed were Tulsi, Giloy, Turmeric, Black pepper, and Ginger and most of them have partaken in the form of Kadha and Turmeric milk on sometimes basis, whereas other Ayurveda rasayana consumed was Chyawanprash and other than spices and herbs, vitamin C and probiotic foods were also consumed during COVID-19 to keep the immune system healthy.

1. Introduction

A pandemic situation worldwide was caused by coronavirus which is also known as SARS-CoV-2. It was first identified in Wuhan city, China in December 2019 which had infected a lot of people and lead to morbidity and mortality worldwide (Yuki, 2020). It is transferred from person-to-person which leads to respiratory infection (cough, sneezing and fever) (Kumar *et al.*, 2020). Coronavirus has a serious effect on those people who has weaker immune system. Middle age (40-60) is the phase of adulthood in which ageing process started which lead to decrease in the functioning of immune system and people are more susceptible to the virus. To fight against coronavirus, various home remedies were adopted to keep immune system healthy (Arshad *et al.*, 2020). Plentiful of spices, herbs and decoction were consumed in various forms such as Kadha, Turmeric milk, Green tea, Fennel tea, and recommendation given by Ministry of Ayush to boost the immune system.

1.1 Home remedies consumed during COVID-19

1.1.1 *Ocimum sanctum* L. (Tulsi)

It belongs to Lamiaceae family and also referred to as “Queen of plants” and holy basin in India. It has huge variety of essential oils which contains bioactive compounds such as eugenol, camphor, eucalyptol and other oils which possess therapeutic properties such as decreases blood glucose level, decreases cholesterol level and helps in heart problems (Rahman *et al.*, 2021). It contains flavonoids which are responsible for the immune-modulatory. It has antioxidant properties which protects the cell membrane and proven to be beneficial in treatment of virus and respiratory infections (Kushwah *et al.*, 2020).

It exhibits various pharmococlogical properties such as antimicrobial activity, antifertility activity, hepatoprotective activity, immunomodulatory activity, antiasthmatic activity, antiulcerogenic activity and anticataract activity. Tulsi used in Ayurveda as well in Sidha and Unani system as Ayurveda medicine since ancient time. It act as remedy for cold, cough, infections, hearts disease, stomach disorders, promote digestive system, helps in the detoxification of blood and other than home remedy, it also has religious belief in India. It is used in tea or as a flavouring agent in various food stuffs (Bhadra, 2020).

1.1.2 *Azadirachta indica* A. Juss. (Neem)

It belongs to Meliaceae family and has been used in traditional medicine as household remedies and has various compounds which are extracted from leaves and bark such as limonoids, nimbin, hypersoide, nimbolide, and other compounds which has free radical scavenging properties. Neem possess antiviral properties, anti-inflammatory property, antimicrobial properties, antibacterial, lavricidal, and anti-poliferative which can be used against corona virus and against various human ailments (Singh *et al.*, 2021; Sharma *et al.*, 2021).

Neem is beneficial for environment, public health problems and agriculture (fertilizer, manure, conditioner, fumigant and pesticide) (Lokanadhan *et al.*, 2012). It is beneficial herbal drug which helps in the treatment of various diseases such as ulcer, malaria, arthritis, vitiligo, diabetes, digestive problems and respiratory infections (Giri *et al.*, 2019). From ancient time, India has consuming neem in form of neem juice, neem twigs for cleaning of teeth, as tonic or in the form of neem toothpaste (Meghwar and Khaskheli, 2020).

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1.1.3 *Tinospora cordifolia* (Thunb.) Miers (Giloy)

It is also known as immune modulator herb as it boosts the immune system of the body. It belongs to Menispermaceae family and contains pharmacological properties which includes antioxidant, antidiabetic, anti-inflammatory, antidiruetic and hepato-protective. It has been used as medicinal herb in Ayurveda and due to presence of compounds which possess pharmaceutical properties which are alkaloids, steroids, phenolics, gylcosides and other compounds (Kumar *et al.,* 2020).

All parts (stem, bark, root, seed and flower) of Giloy which is also known as Guduchi, have antiviral and immunomodulator potential. It enhances the immune system and helps to fight against infection and it restrain protease work against coronavirus (Naik and Pidigam, 2021).

1.1.4 *Zingiber officinale* Rosc. (Ginger)

It has been used since ancient times in the treatment of respiratory infection, joint pain, improves appetite and gastrointestinal disorder. It belongs to Zingiberaceae family and a great source of bioactive compounds and vitamins and minerals such as phosphorus, calcium and vitamin B and pharmacological properties such as antimicrobial, anti-inflammatory and antineoplastic effect and it is beneficial against various diseases and enhance the immune system (Al-Awwadi, 2017; Jabborova *et al.,* 2020).

Ginger has pungent taste and aromatic odor; it has been used as spice since ancient time as a flavoring agent. In a modern time, various products are processed from ginger such as dry ginger, ginger syrup, ginger oil, ginger paste, ginger oleoresin, ginger cakes and cookies, tea, wine, candy, coffee, syrup and other products (Bag, 2018). Ginger was consumed to fight against coronavirus and to boost the immunity.

1.1.5 *Curcuma longa* L. (Turmeric)

It belongs to Zingiberaceae family and it is also referred to as "Golden spice of India". It is important part of traditional medicine, used in Ayurveda because of its therapeutic properties which provides strength and energy to the body, diabetes, improve digestive system, relief from arthritis and gas, and helps in various respiratory infections and helpful in neurological disorder. Curcumin is also known as diferuloylmethane found in Turmeric which possess yellow color which is commonly used in preparation of various curries and other food stuffs (Prasad and Aggarwal, 2011).

Turmeric has antioxidant, antimutagenic, anti-inflammatory, anti-microbial properties and anticancer agent. It is a good source of carbohydrates and fiber and contains minerals such as vitamin C, potassium, magnesium, calcium and phosphorus (Sahoo *et al*., 2021). Most commonly consumed during COVID-19 was Turmeric milk also known as "haldi doodh".

1.1.6 *Cinnamomum verum* J. Presl (Cinnamon)

It belongs to Lauraceae family and it has compounds such as eugneol, cinnamaldehyde, cinnamic acid and cinnamate which has medical effects on diabetes, hypertension, obesity and cardiovascular diseases. Therapeutic properties of cinnamon are, it has antioxidant activity as its extract has loose radical scavenging pastime, antimicrobial activity, immunomodulator activity, antifungal, anti-diabetic and antiviral properties and also used in various problems such as toothache, bad breath, and oral infection. It has been used since ancient time as traditional medicine and used as spice and flavor additives in various food stuffs. It is beneficial against various infections and helps in the maintenance of health (Goel and Mishra, 2020).

1.1.7 *Syzygium aromaticum* L. (Clove)

It has medical properties and belonging to Myrtaceae family. It boosts the immunity and contain phenolic compounds (Vicidomini *et al.,*2021; Kanyinda, 2020). It uses from ancient time as traditional medicine. It used as spice from ancient times and has antiviral, antibacterial, immunostimulatory and antithrombiotic properties. Its oil contain eugenol which has other important phytochemicals such as eugenyl acetate, β-caryophyllene and other phytovhemicals (Naik and Pidigam, 2021).

Clove commonly known as Lavang which is rich in potassium and chromium and other minerals such as iron, zinc, calcium, copper, phosphorus and magnesium (Devi, 2020). It is used as home remedy such as to provide relief from tooth ache, helps to get rid of bad breath, provide relief from acidity, and consist of various carminative and antimetic properties and helps in the treatment of respiratory infections (Millind and Deepa, 2011).

1.1.8 *Piper nigrum* L. (Black pepper)

It belongs to Piperaceae family and it is also known as "King of spices" and has bioactive compounds which are piperdardiine and piperanine and are considerably active against COVID-19. It has various therapeutic properties which exhibit anti-inflammatory, antimic-robial properties, antidiarrheal, antimutagenic, antitumor and use for in the treatment of digestive problems, throat infection and respiratory infection. It is used as spice in various dishes due to its pungent taste and odor. Black pepper has polyphenols, aromatic compounds, alkaloids and flavonoids which is used in different health aliments (Singletary, 2010; Abdallah and Abdalla, 2018).

1.1.9 *Allium sativum* L. (Garlic)

It belongs to Amaryllidaceae family. It has sulfur containing compounds (allicin and quercetin) and flavonoids (anthocyanin, myricetin, and kaempferol) which provides pharmacological effects such as antiviral, antibacterial, antifungal and antioxidant effects. Diseases that may be helped or prevented by garlic's medicinal actions include and has therapeutic properties which also considerably effective against cardiovascular disease, hypertension, Alzheimer's disease, cancer, stress, dermatologic applications, and other infections (Bongiorno *et al*., 2008).

1.1.10 *Emblica officinalis* L. (Amla)

It is also referred to as Amalaki and richest source vitamin C, minerals and amino acid (protein). It belongs to Euphorbiaceae family and has anti-inflammatory, antioxidant, hypocholestromic and hepatoprotective properties (Mehrotra, 2020). It improves the digestive system, constipation and provides overall health benefits to the body, enhance immunity, use to treat various diseases such as diabetes, cardiovascular and urinary problems, decline the process of ageing and a major constituent of Chyawanprash (Mirunalini *et al.,* 2013).

Various other Ayurveda rasayana were used during COVID-19 are Mulethi (*Glycyrrhizin gabra* L.), Ashwagandha (*Withania somifera*

L.), Shatavri (*Asparagus racemosus* Wild.), Triphala and Chyawanprash. Other than spices and herbs, probiotic foods, vitamin C rich foods, vitamin E, vitamin D, zinc and magnesium rich food were also consumed during COVID-19. To enhance the immune system and to fight against COVID-19, Ministry of Ayush, Government of India has published a guidelines which includes preparation of Kadha and Turmeric milk and spices and herbs (pudina, ajwain, clove powder) which are present in kitchen and proven to be beneficial in treatment of respiratory infection. The current study emphasizes on which spices, herbs and other supplements were used during COVID-19 and which helped people to survive pandemic situation (Ministry of Ayush, 2020).

2. Materials and Methods

The study was carried out on 120 subjects (60 males and 60 females of ages 40-60 (middle aged) which were residing in Udaipur city, Rajasthan. The survey was conducted randomly on the ease of availability of subject by contacting them personally. A questionnaire was prepared which consist of three sections; first section included demographic finding of subject which comprise of name, age, sex, caste, income, occupation, qualification and weight/ height of the subject, second section included daily routine of subjects during COVID-19 and section third included practice of using home remedies during COVID-19.The questionnaire was qualitative in nature, therefore, frequency and percentage (through SPSS software) was used for analysis of the data.

3. Results

3.1 Demographic findings

From Table 1, data revealed that 32.5% of subjects were age of between 40-45, 50% of subjects were male and 50% were female, 89.2% belonged to general category, 47.5% were post-graduate, 48.3% were doing job (Teacher, executive officer and government employee), Majority of subjects did not revealed their income, 74.2% were vegetarian, majority of males (53.3%) had normal BMI, whereas most of the females (46.6%) were overweight.

Table 1: Demographic findings (N=120)

S. No.	Variables	Frequency (%)
1.	**Age**	
	40-45	39 (32.5%)
	46-50	26 (21.7%)
	50-55	20 (16.7%)
	56-60	35 (29.2%)
2.	**Sex**	
	Male	60 (50%)
	Female	60 (50%)
3.	**Caste**	
	General	107 (89.2%)
	Scheduled caste	10 (8.3%)
	Scheduled tribe	3 (2.5%)
4.	**Qualification**	
	Primary school	4 (3.3%)
	Secondary school	4 (3.3%)
	Higher secondary school	12 (10%)
	Undergraduate	13 (10.8%)
	Postgraduate	57 (47.5%)
	Ph.D.	28 (23.3%)
	Not answered	2 (1.7%)
5.	**Occupation**	
	Business	25 (20.8%)
	Job	58 (48.3%)
	Retired	8 (6.7%)
	Housewife	29 (24.2%)
6.	**Income**	
	1-2 lakh	17 (14.2%)
	2-3 lakh	17 (14.2%)
	3-4 lakh	8 (6.7%)
	4-5 lakh	13 (10.8%)
	More than 5 lakh	9 (15.8%)
	Pension	5 (4.2%)
	Not answered	41 (34.2%)
7.	**Food habit**	
	Vegetarian	89 (74.2%)
	Non-vegetarian	31 (25.8%)
8.	**Weight/height**	**Male** / **Female**
	Underweight	0 2 (3.3%)
	Normal	32 (53.3%) / 21 (35%)
	Overweight	22 (36.6%) / 28 (46.6%)
	Obesity	6 (10%) / 9 (15%)

Table 2: Daily routine during COVID-19 (N=120)

S.No.	Variables	Frequency(%)
1.	**Number of meal consumed during COVID-19**	
	1-2 Times	22 (18.3%)
	2-3 Times	58 (48.3%)
	3-4 Times	28 (23.3%)
	4-5 Times	12 (10%)
2.	**Consume after waking up or early morning**	
	Water	57 (47.5%)
	Tea/coffee	44 (36.7%)
	Milk	13 (10.8%)
	Other	6 (5%)

3.	**Water consumed during COVID-19**	
	1 Liter	0
	1-2 Liter	20 (16.7%)
	2-3 Liter	58 (48.3%)
	3-4 Liter	42 (35.0%)
4.	**Oil consumed during COVID-19**	
	Mustard oil	27 (22.5%)
	Groundnut oil	49 (40.8%)
	Soyabean oil	35 (29.2%)
	Other	9 (7.5%)
5.	**Suffering from disease**	
	Yes	36 (30%)
	No	84 (70%)
6.	**Physical activity**	
	Yoga and meditation	38 (31.7%)
	Brisk walking	39 (32.5%)
	Aerobic exercise	05 (4.2%)
	None of the above	38 (31.7%)
7.	**COVID positive**	
	Yes	20 (16.7%)
	No	100 (83.3%)
8.	**Effect in life due to current scenario of COVID-19**	
	Yes	101 (84.2%)
	No	19 (15.8%)
9.	**Measure taken during COVID-19**	
	Social distancing maintained during COVID-19	120 (100%)
	Wear mask during COVID-19	120 (100%)
	Consumed home remedies	91 (75%)
	All of the above	90 (96.7%)

3.2 Daily routine during COVID-19

Table 2 , data revealed that majority of subjects consumed meal 2-3 times a day, 23.3% consumed 3-4 times a day, 18.3% consumed 1-2 times a day due to work, and 10% of subjects consumed 4-5 times a day. Most of the 47.5% of subjects consumed water after waking up, 36.7% consumed tea/coffee after waking up. It was found that 48.3% of subjects consumed 2-3 liters of water per day in the form of water, shikanji and glucose, 16.7% of subjects consumed 1-2 liters of water per day, whereas 35% consumed 3-4 liters of water per day. Majority of 40.8% of subjects consumed groundnut oil during COVID-19 because of their personal preferences, 29.2% consumed soyabean oil, and 22.5% consumed mustard oil, whereas other remaining subjects consumed sunflower oil during COVID-19. It was revealed that 30% of subjects were suffering from disease which were diabetes, heart problem, fibromyalgia, hypertension, GIT problem and fatty liver. 16.7% were COVID positive and 84.2% of subjects got affected due to current scenario of COVID-19. 100% of middle aged people maintained social distance and wore mask, 75%consumed home remedies and 96.7% took care of all the measures during COVID-19.

Table 3: Practices of consumption of home remedies during COVID-19 (N=120)

S. No.	Variables	Frequency (%)
1.	**Immunity booster consumed during COVID-19**	
	Spices and herbs	116 (96.7%)
	Vitamin C rich foods	100 (83.3%)
	Probiotic foods	54 (45%)
	All of the above	54 (45%)
2.	**Frequency of consumption of home remedies**	
	Daily	27 (22.5%)
	Sometimes	53 (44.1%)
	Rarely	40 (33.3%)
3.	**Consumption of home remedies during COVID-19**	
	Kadha	79 (65.8%)
	Turmeric milk	95 (79.2%)
	Lemon tea	50 (41.7%)
	Fennel tea	16 (13.3%)
	Green tea	33 (27.5%)
	Other	10 (83.3%)
4.	**Consumption of herbs during COVID-19**	
	Tulsi	103 (85.8%)
	Neem	64 (53.3%)
	Giloy	68 (56.7%)
	Kalonji	36 (30%)
	Aloevera	36 (30%)
	Other	02 (1.7%)
5.	**Consumption of spices and condiments during COVID-19**	
	Black pepper	107 (89.2%)
	Turmeric	120 (100%)
	Cinnamon	59 (45.8%)
	Ginger	108 (90%)
	Clove	70 (58.3%)
	Garlic	94 (78.3%)
	Other	19 (15.8%)
6.	**Ayurveda rasayana consumed during COVID-19**	
	Chyawanprash	26 (21.7%)
	Ashwagandha	9 (7.5%)
	Triphala	7 (5.8%)
	other	2 (1.7%)
	None of the above	76 (63.3%)

7.	**Consumption of juices during COVID-19**	
	Aloevera juice	11 (9.2%)
	Amla juice	21 (17.5%)
	Vegetable juice	32 (26.7%)
	Other	10 (8.3%)
	None of the above	58 (48.3%)
8.	**Awareness about home remedies**	
	Ayush Ministry	17 (14.2%)
	Media	21 (17.5%)
	Internet	25 (20.8%)
	Past knowledge	45 (37.5%)
9.	**Kadha consumed during COVID-19**	
	Homemade kadha	48 (40.0%)
	Readymade kadha	25 (20.8%)
	Both	26 (21.1%)
	None of the above	41 (34.1%)
10.	**Positive impact after intake of home remedies**	
	Relieve stress	10 (8.3%)
	Improve overall health	16 (13.3%)
	Provide strength	32 (26.7%)
	All of the above	42 (35%)
11.	**Negative impact after intake of home remedies**	
	Heartburn	15 (12.5%)
	Diarrhea	08 (6.7%)
	Nausea	03 (2.5%)
	Other	01 (0.8%)
	None of the above	93 (77.5%)
12.	**Recipes made during COVID-19**	
	ladoo	19 (15.8%)
	Candies	15 (12.5%)
	Halwa	18 (15%)
	Other	04 (13.3%)
	None of the above	64 (53.3%)
13.	**Consumption of medical supplements**	
	Yes	42 (35%)
	No	78 (65%)
14.	**Change in meal pattern**	
	Yes	20 (16.7%)
	No	100 (83.3%)
15.	**COVID-19 changed daily routine**	
	Yes	60 (50%)
	No	60 (50%)
16.	**Purpose for consumption of home remedies**	
	Natural immunity booster	65 (54.2%)
	Lesser side effect	19 (15.8%)
	Cheaper than medicine	16 (13.3%)
	Other	03 (2.5%)

3.3 Practices of consumption of home remedies during COVID-19

From the Table 3, data revealed that majority of subjects consumed spices and herbs and vitamin C rich foods to fight against virus and to enhance immune system because of ease of availability during COVID-19. It was found that majority 44.1% of subjects consumed home remedies on sometimes basis, whereas 22.5% consumed on daily basis and 33.3% consumed rarely.

Data implied that majority of subjects consumed Kadha 65.8% and Turmeric milk 79.2%, 41.7% consumed lemon tea, 13.3% consumed fennel tea, 27.5% consumed green tea, whereas 83.3% of subjects consumed other home remedies which were Sitaphal water,Tulsi leaves, Amla juice and candy, Ginger tea and herbs powder with the already mentioned home remedies. Majority of 85.8% of subjects consumed tulsi leaves, 53.3% consumed neem, 56.7% and 30% of subject consumed Giloy and Kalonji, respectively, whereas 30% consumed Aloevera and 1.7% consumed other herbs which were Mint and Moringa. It was found that 100%of subjects consumed Turmeric in form of Turmeric milk or added in the preparation of food, 89.2% consumed Black pepper, 45.8% consumed Cinnamon, 90% of subjects consumed Ginger, 58.3% consumed Clove, 78.3% of subject consumed Garlic and 15.8% of subjects consumed other spices which were Cardamom, Dry ginger, Mulethi, Nutmeg and Ginseng with other spices and condiment mentioned in Table 3 (Figure 1).

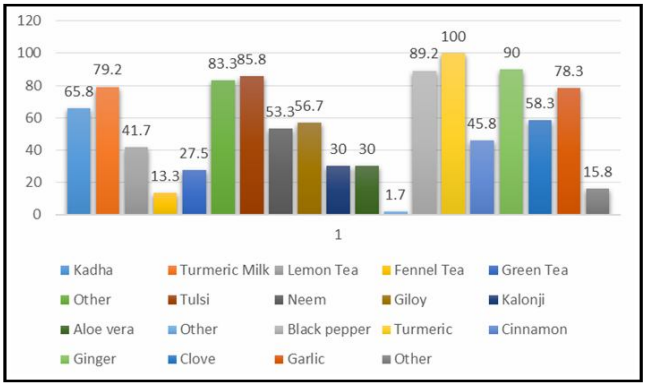

Figure 1: Home remedies consumed during COVID-19.

Data revealed (Table 3) that 21.7% of subjects consumed Chyawanprash, 7.5 % and 5.8% of subjects consumed Ashwagandha and Triphala, respectively, 1.7% consumed other Ayurveda rasayana whereas majority of subjects did not consumed other Ayurveda rasayana, during COVID-19 (Figure 2).

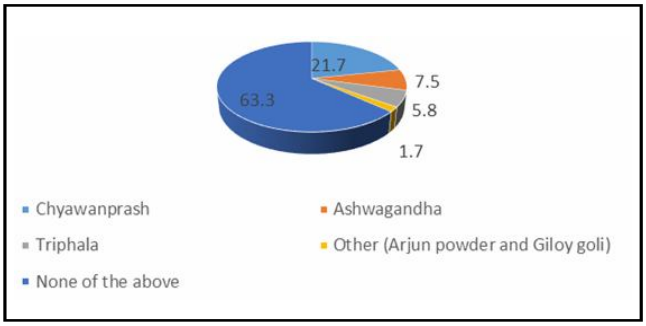

Figure 2: Ayurveda rasayana consumed during COVID-19.

To keep body hydrated and immune system healthy, number of subjects have consumed juices such as 9.7 % of subjects consumed Aloevera juice, 17.5 %have consumed Amla juice, 26.7 % have consumed vegetable juice and 8.3% of subjects have consumed other juices such as fruit juice.

From Table 3, it was found that 37.5% of subjects already had past knowledge about the traditional medicine which can be helpful for boosting the immune system; 14.2% of subjects got knowledge from Ministry of Ayush, Government of India, 17.5% of subjects got to know from media (Newspaper and Television), and 20.8% of subjects got to know about home remedies through social media or internet about the preparation and benefits of home remedies (Figure 3).

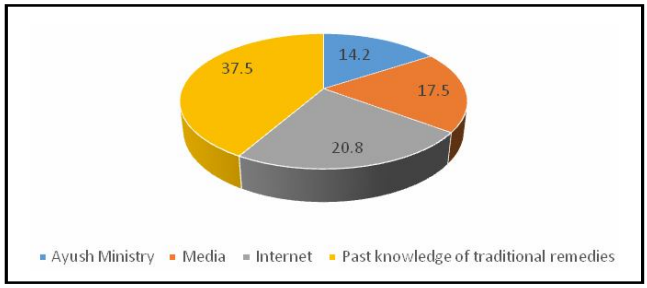

Figure 3: Knowledge about home remedies from which source.

It was found that majority of 40.0% of subjects consumed freshly home prepared Kadha to enhance the immunity, 20.8% have consumed ready-made Kadha which were available in the market, 21.1% have consumed both home-made and ready-made Kadha whereas, the remaining 34.1% subjects did not consume any kind of Kadha during COVID-19. It was found that majority were using tusli, neem, giloy, mulethi, black pepper, honey, raisin, dry ginger, clove and cardamom in the preparation of Kadha.

Majority of 35% of subjects got relief from stress, saw improvement in overall health and got strength after consumption of home remedies, 8.3% of subjects got relief in stress, 13.3% of subjects observed improvement in their overall health whereas, the remaining 26.7% subjects got strength (increased in stamina) after consumption of home remedies during COVID-19.

Out of 120 subjects, 12.5% of them felt heartburn after consumption of home remedies, 6.7% of subjects suffered from diarrhea, 2.5% of suffered from nausea, 0.8% felt other problem whereas, majority of subjects did not have any negative effect after consumption of home remedies.

To fight against coronavirus, many people prepared recipes which could help them to boost their immune system, 15.8% of subjects made ladoo in which they added jaggery, dry fruits such as almond, raisin, cashew and walnut and sesame seeds, 12.5% subjects made candies (Amla and Orange candy), 15% of subjects made hallway, whereas majority of subject did not made any recipe during COVID-19 to enhance their immunity.

Out of total number of samples, 42 subjects have also consumed medical supplements other than home remedies. Medical supplements they consumed were 19.2% of subjects consumed zinc tablets, 29.3% of subjects consumed vitamin C tablets, 2.5% of subjects consumed vitamin E tablets and 10.0% of subjects consumed calcium and vitamin D tablets. It was found that 16.7% of subjects changed their meal pattern, they avoided fried foods, consumed more fruits and dry fruits, avoided sugary and refined foods and tried to consumed proper balanced diet, whereas majority 83.3% of subjects did not change their basic meal pattern. Half of the subjects, 50% have noticed changed in their daily routine whereas, 50% of subjects did not notice any change in their daily routine. Data revealed that 54.2% of subjects main purpose of consumption of home remedies was a natural immunity booster, 15.8% of subjects consumed because it had lesser side effects, 13.3% of subjects consumed because it was cheaper than medicine, whereas the remaining 2.5% had other that it was easily available during COVID-19 (Figure 4).

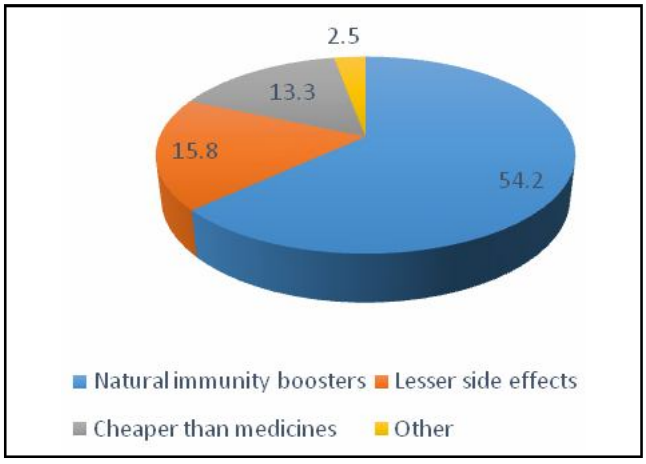

Figure 4: Reason for consumption of home remedies.

4. Discussion

Due to sudden outbreak of COVID-19, consumption of home remedies was increased to fight against virus and to boost immunity system. Various surveys were done and results were observed. Khadka *et al.* (2021) conducted a survey in Nepal through google forms, in the survey total of 774 respondents took part and from the survey, the author concluded that the most consumed home remedy was East Indian arrowroot, ginger, garlic, and other 63 plants species were used to prevent COVID-19. The findings are in agreement with current findings that number of home remedies were used during COVID-19. Azam *et al.* (2020). conducted a survey in Bangladesh, the study was conducted on 3 patients in which patient 1 and patient 2 answered that he consumed home remedies such as holy basil, black pepper, black cumin, ginger, and with that homeopathic medications ivermectin was consumed. Patient 3 consumed home remedies such as holy basil, black pepper, black cumin, ginger, and with that homeopathic medications ivermectin and vitamin D capsules. From the survey, they concluded that home remedies have beneficial effects during COVID-19 and prevent other, viral disease, and has various beneficial properties. Dkhar *et al.* (2020). conducted a survey in which 1574 respondents took part in Jammu and Kashmir through social media platforms, 61% of people got details about COVID-19 from social media platforms, 89% of respondents had knowledge about coronavirus transmission, 87% followed all the norms such as washing hands with soap and maintained social distance, 73% wear mask regularly. 89% of subjects followed all COVID-19 guidelines. From the results, the author concluded that subjects had proper knowledge, a positive attitude, and had knowledge about the practices during the pandemic

situations. Chandurkar *et al.* (2020) conducted a survey on 220 subjects who resided in Bhopal. The data was collected through Google forms and from that it was found that the majority 84 % of respondents have consumed herbs and spices and most of the respondents consumed tulsi, ginger, garlic, turmeric, and other than that cardamom, mint, clove and fenugreek, and most of the subjects consumed in Kadha form. Results of current finding sync. with previous findings conducted by Soni *et al.* (2022). Majority of subjects wear mask and they also concluded that they wear for 4 hours, but it shows the disagreement with current finding age less than 18 years and above 69 years wear mask on regular basis whereas, on other hand, working people wear for less time. Spices and herbs are beneficial as they are natural supplements which enhance the immunity, control the glucose and cholesterol level of the body and has no side effect but, it has limitations that some show allergic reaction by reacting with some medications (Palai *et al.*,2020). In the current findings, (75%) consumed home remedies, in form of Turmeric milk (79.2%) and Kadha (65.8%) and majority of spices and herbs consumed were Turmeric (100%), Ginger (90%), Black pepper (89.2%), Garlic (78.3%), Tulsi (85.8%), Giloy (56.7%) and Neem (53.3%). Home remedies were consumed because they are natural with little or no side effects and (37.5%) of subjects consumed of the past knowledge about traditional medicine.

5. Conclusion

From the current finding, concluded that people residing in Udaipur city, Rajasthan have consumed home remedies during COVID-19 mainly in form of Kadha and Turmeric milk, most common herbs consumed by subjects were Tulsi, Neem and Giloy, spice and condiments mainly consumed were Turmeric, Black pepper and Ginger. Majority of subjects were dependent on home remedies than other supplements which were available in the market because no other option was available at that time. Home remedies are excellent for heath, if used in proper amount. Further, investigation should be done to impact whether people still consuming home remedies for healthy lifestyle and augment immunity against the dreadful virus.

Conflict of interest

The authors declare no conflicts of interest relevant to this article.

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