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RESEARCH ARTICLE

Awareness about Medicinal Indigenous Plants during COVID-19

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ABSTRACT

The coronavirus family's severe acute respiratory syndrome coronavirus (SARS-CoV-2) causes Coronavirus Disease 2019 (COVID-19). The disease became a pandemic after the first case was identified in Wuhan, China, December 2019. The present study is on "Awareness about medicinal indigenous plants during COVID-19" which was undertaken during 2021-2022 to see the Utility of medicinal indigenous plants to maintain immunity against COVID-19" in four different localities would be randomly selected in Kanpur district. 30 respondents will be selected randomly from each locality. Thus, in all 120 respondents will be selected for the study. Most of the respondents were belong to 30-40 years of age group, and majority of respondents in the study area were found to be post graduate and above, limited access to source of information television, mobile phones as their communication. The study concludes that most respondents were agree with awareness about medicinal indigenous plants during COVID-19. They were agreeing about Neem is anti-viral effect and Tulsi boosts the production of antibodies. The study also concluded that the respondents were agree about cloves helps to stop the growth of microorganism. Also, there was awareness regarding Ginger helps to prevent stress and promote healthy aging.

Key words: *Awareness; Immunity; Medicinal; Pandemic; Respondents.*

India is called the pharmacy of the world during the COVID-19 pandemic with its vast experience and deep knowledge in herbal medicine. India is one of the world's biggest drug-makers and an increasing number of countries have already approached India for procuring corona virus vaccines. Indian traditional herbal system of medicine known as Ayurveda also played an important role during corona virus (SARS-CoV-2) outbreak. Traditional medicines involving plant-based formulations have proven successful in boosting immunity and providing tolerance to the virus infections. Herbal medicines of antiviral activity are of great interest and have been widely explored. Plant derived medicines have played a pivotal role in the health care. (*B. Malabadi et al. 2021*).

Viral disease, including the emerging (COVID-19) and chronic viruses, are causing increasing worldwide health concerns. Consequently, the discovery of new antiviral agents from plants has assumed more urgency than in the past. A number of indigenous Indian drugs of plant origin are known to have antimicrobial and anti-inflammatory activity, although only a few have been studied for their antiviral properties and immunomodulatory effects (*Das et al.2020*). Herbal remedies have long been used to treat infections caused by micri-organism such as virus, bacteria and fungi. The coming pandemics like COVID-19 is challenging the word, tiny organism are more powerful agents that can cause rapid spread and massive fatality. In COVID-19 common symptoms like cough, fever, difficulty in breathing is more common. (*Randeep V.C. et al. 2020*). *The objectives of the study are as follows:*

1. To study the socio-economic status of the respondents.
2. To find out awareness about medicinal indigenous plants during COVID-19 pandemic.
3. To Analysis the adoption of medicinal indigenous plants during COVID-19 pandemic.

Table1. Socio- economic status of the respondents.

Age group	No.	%	Mean Age (years)	S.D. (years)
Up to 30 years	15	12.5	28	1
30 to 40 years	49	40.8	35	3
40 to 50 years	45	37.5	44	3
50 years and above	11	9.2	52	2
Total	120	100.0	39	6
Gender	No.		%	
Male	63		52.5	
Female	57		47.5	
Total	120		100.0	
Caste	No.		%	
OBC	76		63.3	
General	32		26.7	
SC/ ST	12		10.0	
Total	120		100.0	
Educational Qualification	No.		%	
Primary	-		-	
High school	13		10.8	
Intermediate	19		15.9	
Graduate	37		30.8	
Post graduate and above	51		42.5	
Total	120		100.0	
Annual income	No.	%	Mean income (Rs.)	S. D. (Rs.)
Up to Rs. 100000	6	5.0	74158	5185
Rs. 100000 to Rs.200000	20	16.7	156721	30865
Rs. 200000 to Rs. 300000	37	30.8	248820	40744
Rs. 300000 and above	57	47.5	312500	25420
Total	120	100.0	792199	102214
Source of information	No.		%	
Radio	72		60.0	
Television	120		100.0	
Magazine	46		38.3	
News paper	106		88.3	
Telephone/ Mobile	120		100.0	
Books	60		50.0	

METHODOLOGY

In conducting the present study entitled, "awareness about medicinal indigenous plants during COVID-19" the various research procedures and research methods were applied and statistical tools were used. Four localities would be randomly selected in Kanpur district. 30 respondents will be selected randomly from each locality. Thus, in all 120 respondents will be selected for the study. These areas shall present different section of medicinal plants Dependent and Independent variables namely education and source of information etc. were used the collection of data were subject to statistical analysis for which statistical tools, percent, weighted mean, arithmetic mean, standard deviation and rank.

RESULTS AND DISCUSSION

The 40.8% of respondents belong to 30-40 years age group with mean age 35 years and standard deviation 3 years and followed by. 37.5% of respondents belong to 40-50 years age group with mean age 44 years and standard deviation 3 years in the research study area. 12.5% of respondents have belong to 30 years

Table 2. Awareness about medicinal indigenous plants during COVID-19 pandemic.

Awareness	Symbol	Agree	Partially agree	Disagree	Mean Score	S.D.	Rank
Medicinal plants help to overcome from health issues	A	65.0	26.7	8.3	2.57	2.1	VII
Amla helps in boost immunity	B	70.0	30.0	0.0	2.70	2.2	IV
Lemon grass helps in reducing fever	C	66.7	30.0	3.3	2.63	2.1	VI
Giloy is anti-arthritic (help in reduce joint pain)	D	68.3	31.7	0.0	2.68	2.2	V
Giloy prevent respiratory illness	E	58.3	38.3	3.3	2.55	2.1	VIII
Neem is anti -viral effect	F	78.3	21.7	0.0	2.78	2.3	I
Tulsi boosts the production of antibodies	G	77.5	22.5	0.0	2.78	2.3	I
Ashwagandha helps to calm the brain	H	66.7	30.0	3.3	2.63	2.1	VI
Cloves helps to stop the growth of microorganism	I	78.3	18.3	3.3	2.75	2.3	II
Ginger helps to prevent stress and promote healthy aging	J	73.3	26.7	0.0	2.73	2.2	III

age group with mean age of 28 years and standard deviation 1 years and 9.2% of respondents belong to the age group of 50 years and standard deviation 2 years. Overall mean age of the respondents has 39 years and standard deviation 6 years in the research study area. Distribution of respondents according to education qualification, maximum 42.5% of respondents in the study area were found to be post graduate and above, followed by 30.8% of respondents in the study area were found to be graduate. 15.9% of respondents who had passed intermediate and 10.8% of respondents were found to be educated to high school. Distribution of respondents according to according to caste, maximum 63.3% of respondents belongs to OBC caste and 26% of respondents belongs to general category, followed by 10% of respondents in the study area were found to be SC/ST category. 47.5% of respondents belonged to those families who annual income is Rs. 300000 and above with a mean income of Rs. 312500 and standard deviation Rs. 25420, 38.8 % of respondents belonged to those families, whose annual income lies between Rs. 200000 to 300000 with mean income Rs. 312500 and standard deviation Rs. 25420. Therefore, 16.7% of respondents belong to those families, whose annual income was Rs. 100000 to 200000 with mean income Rs. 156721 and standard deviation Rs. 30856. Minimum 5.0% of families had an annual income of up to Rs. 100000 with mean Rs. 74158 and standard deviation Rs. 5185. 100.0% of respondents had television and mobile phones as their communication media followed by 88.3% of respondents who have newspaper in their house as a source of media. 60.0% of respondents increase their knowledge through books. 38.3% of respondents using magazine as a source of media. Socio-economic conditions of the respondents were defined as the improvement of social as well as economic status towards positive direction. The respondents were asked to give their opinion regarding the socio-economic development in addition to their livelihood due to the direct or indirect contribution of medicinal plants. (*Bari et al.2017*)

The 78.3% and 77.5% of respondents were agree and 21.7% and 22.5% have partially agree about Neem is anti-viral effect and Tulsi boosts the production of antibodies with mean score 2.78, Standard Deviation 2.3 and rank I followed by 78.3% of respondents were found to be agree about cloves helps to stop the growth of microorganism with mean score 2.75 ,Standard Deviation 2.3, and rank II 73.3% of respondents agree about Ginger helps to prevent stress (*Suman Audichya, 2022*) and promote healthy aging with mean score 2.73, Standard Deviation 2.2 and rank III respectively whereas 70.0% of found to be agree in the study area and 30.0% of respondents partially agree about the Amla helps in boost immunity, with mean score 2.70%,standard deviation 2.2 and rank IV .68.3% of

Table 3. Analysis the adoption of medicinal indigenous plants during COVID-19 pandemic.

Adoption of medicinal indigenous plants Covid-19 pandemic	Symbol	Always	Sometime	N	Mean Score	S.D.	Rank
Use of medicinal plants in your diet	A	43.3	50.0	6.7	2.37	1.9	VIII
Deals with endemic infection disease	B	55.8	44.2	0.0	2.56	2.1	V
Medicinal plants help to get good sleep	C	63.3	33.3	3.3	2.60	2.1	III
Medicinal plant fight with flu and cold	D	69.2	30.0	0.8	2.68	2.2	II
Medicinal plants are good supplement for health	E	63.3	31.7	5.0	2.58	2.1	IV
Medicinal plants help in increase immunity	F	73.3	26.7	0.0	2.73	2.2	I
You can use the juice of medicinal plants in your diet	G	49.2	48.3	2.5	2.47	2.0	VII
You can use herbal teas as medicinal properties which help boost immunity	H	57.5	42.5	0.0	2.58	2.1	IV
Medicinal plants are antimicrobial, anti-inflammatory for food	I	57.5	40.0	2.5	2.55	2.1	VI
You can use kadha in fever, cold cough	J	55.0	45.0	0.0	2.55	2.0	VI

Table 4. Correlation coefficient between awareness about medicinal indigenous plants during COVID-19 with independent variables

Variables	Correlation coefficient
Age	0.3578*
Education	0.2497*
Family Size	0.1187
Income	0.2881*
Land holding	-0.2693

Table 5. Correlation coefficient between adoption of medicinal indigenous plants during COVID-19 with independent variables

Variables	Correlation coefficient
Age	0.2564*
Education	0.3536*
Family Size	-0.1261
Income	0.2511*
Land holding	0.1883

respondents were agree and 31.7% of respondents were partially agree about the Giloy is anti-arthritic (help in reduce joint pain) with mean score 2.68% standard deviation 2.2 and rank v 66.7% of respondents were agree and 30.0%of respondents were partially agree about lemon grass helps in reducing fever and ashwagandha helps to calm the brain with mean score 2.63, standard deviation 2.1 and rank VI .On rank VII , 65.0%of respondents agree and 26.7% of respondents partially agree about medicinal plants helps to overcome from health issue with mean 2.57 ,standard deviation 2.1 .lastly, 58.3% of respondents were agree and 38.3% partially agree about Giloy prevent respondents illness with mean score 2.55, standard deviation 2.1 and rank VIII. It was accomplished that regular practices of yoga and use of herbal preparation (Giloy + Ginger + Tulsi) in suggested quantity improve the immunity level naturally with speedy recovery in COVID-19 cases as well as in healthy person and suspected case it minimizes the chance of infection. (*Kumar et al. 2020*).

The 73.3% of respondents always medicinal plants help in increase immunity respectively with mean score 2.73, standard deviation 2.2 & rank I, followed by rank II, 69.2% of respondents always medicinal plants fight with flu & cold with mean score 2.68, and standard deviation 2.2. 63.3% of respondents always and 33.3% of respondents sometimes medicinal plants help to get good sleep respectively with mean score 2.60, standard deviation 2.1 & rank III. 63.3% & 57.5% of respondents always and 31.7% & 42.5% of respondents sometimes medicinal plants are good supplement for health & can use herbal teas as medicinal properties which help boost immunity with mean score 2.58, standard deviation 2.1 & rank IV. 55.8% of respondents always deals with endemic infection disease with mean score 2.56, standard deviation 2.1 & rank V. 57.5% & 55.0% of respondents always

medicinal plants are antimicrobial, anti-inflammatory, antifungal and anti-preservative for foods & use kadha in fever, cold or cough with mean score 2.55, standard deviation 2.1 & 2.0 and rank VI, also 49.2% of respondents always use the juice of medicinal plants in your diet with mean score 2.47, standard deviation 2.0 and rank VIII. 43.3% of respondents always 50.0% of respondents use of medicinal plants in your diet with mean score 2.37, standard deviation 1.9 & rank VIII. Today, Traditional Medicine (TM) is termed as complementary or alternative medicine due to non-sufficient validated scientific approaches. To increase the promotion of TM, there is a need to standardize phytochemical composition and pharmacological significances of herbal medicines. Herbal medicine can also be revalued by extensive researches and therapeutic principles to ascertain safety and efficacy of traditional medicines in all over the world. This confirms that food and medicinal plant uses are closely related and can be relevant to the development of functional foods, pharma foods and nutraceuticals (*Singh et al. 2014*).

The correlation coefficient independents variable between awareness about medicinal indigenous plants during COVID-19, age (0.3578*), education (0.2497*) and annual income (0.2881*) of the respondents positive significantly correlated with awareness about medicinal indigenous plants like amla helps to improve immunity and Giloy prevent respiratory system of human body at 5% probability level and 118 degrees of freedom. Land holding of respondent's negative correlation of aware of respondents during COVID-19. Whereas, family size of the respondents was found to be positive correlated in the study area.

The correlation coefficient independent variable between adoption of medicinal indigenous plants during COVID-19, age (0.2564*), education (0.3536*) and annual income (0.251*) of the respondents positive significantly correlated with adoption of medicinal indigenous plants. Family size of respondent's negative correlation of adoption of respondents COVID-19. Whereas land holding of the respondents were found to be positive correlated with adoption of medicinal indigenous plants like medicinal plants helps in increase immunity in the study area.

CONCLUSION

The study also concluded that the respondents were always agree with medicinal plants are good supplement for health & use herbal teas as medicinal properties which help boost immunity. Herbal medicine can also be found in everyday foods such as Ginger, black pepper, cloves, and garlic. Medicinal plants can be used as self-care options for sleep, stress, and disorder to digestive ailments, cold and flu. Many herbs are utilised as blood purifier to reduce or change long-term health problem by removing metabolic poisons. Certain herbs commonly known as 'blood cleanser' boost a person's immunity, reducing the risk of illness like fever, cough, cold and flu. Medicinal plants like- Giloy, ashwagandha, Tulsi are prevent respiratory illness and helps to calm the brain.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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