Nat. Volatiles & Essent. Oils, 2021; 8(4): 11269-11296

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Natural Volatiles & Essential Oils

# Knowledge, Awareness And Perception About Ayurveda As An Immunity Booster Against Covid 19 Among General Population - A Cross Sectional Survey

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**ABSTRACT :**

**Aim:** To evaluate the knowledge, awareness and perception levels of the general public on the immune boosting effects of ayurveda against Covid 19.

**Background:** Ayurveda is a traditional medicine that is usually followed in India. Ayurveda has the power and strength to build up an immunity system to fight against the Covid 19.

**Materials and methods:** A cross sectional study was conducted among the general public visiting a private dental institution. Random sampling was employed. Closed ended, a structured questionnaire was prepared and circulated through google forms. The data collected was tabulated and analyzed by SPSS software (version 23).

**Results :** About 78.85% people believe in Indian ayurvedic medicine whereas 21.15% do not believe in Indian ayurvedic medicine. About 64.42% people prefer ayurvedic medicine over allopathy medicine whereas 35.58% do not prefer ayurvedic over allopathy medicines. About 59.62% prefer that ayurvedic medicine is more useful in prevention of covid 19 whereas about 40.38% do not prefer ayurvedic medicine in prevention of covid 19. About 14.71% of females and 13.73% of males feel that ayurvedic treatment can be used in emergency cases whereas about 44.12% of females and 27.45% of males feel that ayurveda cannot manage emergency cases (p value = 0.358).

**Conclusion :** From the study it can be concluded that People had good knowledge and awareness about ayurveda. Ayurvedic medicine primarily finds its application in boosting immunity. Further preclinical and clinical works can be done for the evaluation of various herbs used in ayurvedic medicine .

**KEYWORDS:** Ayurvedic , allopathy , medicine , covid 19, Novel analysis.

**INTRODUCTION:**

Ayurveda is an ancient science which is done with herbal products. It shows antiviral features and antioxidant properties. Ayurveda has ethnic and medical advantages. It is a method of extensively natural healing. Ayurveda has the capacity to standardize body function with diverse techniques. Ayurveda is basically moving forward for the regulation of lifestyle disorders(1) because of stress and other reasons. Ayurveda is established on the theories of indigenous, faith and practices that are from generation to generation.

Immune system lacks memory against Virus(2). COVID 19 is a severe acute respiratory syndrome coronavirus 2 which is an infectious disease originating from Wuhan China (3). Silico studies show that many herbs in ayurveda can prevent the entry of the virus (4). Many advisory notes were given on various ayurvedic medicine to establish immunity booster against covid (5). Prevention is better than cure of the disease so by improving the immunity booster may help in reducing disease spreading.

Previous research is done on the immuno-modulatory drugs against covid 19 (6), Ayurvedic care outcomes in covid 19 patients . There is a study in which a covid 19 patient with severe breathing has recovered with only supportive ayurvedic care (7).This research is needed to bring awareness of the capacity of ayurveda to boost up the immunity of the body against covid 19 and also to bring more consciousness about the Indian ayurvedic medicine. Our team has extensive knowledge and research experience that has translate into high quality publication(8),(9),(10),(11),(12),(13),(14),(15),(16),(17),(18),(19),(20),(21),(22),(23),(24),(25),(26),(27).
The aim of the study was to assess the knowledge, attitude and practice of the general population towards Ayurvedic medicine in prevention and treatment of covid - 19 for its immune boosting.

**MATERIALS AND METHODS :**

A cross sectional study was conducted among the general public visiting Saveetha dental college. Random sampling was used to minimize sampling bias. A pre validated, close-ended questionnaire containing 11 questions were prepared and circulated through an online platform (Google form). The collected data were tabulated and statistical analysis was performed in Statistical Package for the Social

Sciences (SPSS) software version 23 (IBM, Chicago, USA). Descriptive statistics was performed followed by Pearson's Chi-square. p value of <0.05 was considered significant.

**RESULTS :**

A total of 103 subjects participated in the study. The data collected had the results in which about 58.85% are female and 41.18% are males . About 78.85% believe in Indian ayurvedic medicine where 48.04% are female and 3.37% are male , About 21.15% do not believe in ayurvedic medicine where 10.78% are female and 9.80% are males( figure 1) . About 64.42% prefer ayurvedic treatment over allopathy treatment in which about 40.20% are female and 24.51% male. About 35.58% do not prefer ayurvedic over allopathy medicines in which about 18.63% are female and 16.67% male (figure 2 & 12). About 69.23% had not taken any ayurvedic medicine during covid 19 in which 37.25% are female and 6.82% male whereas 30.77% had taken ayurvedic medicine during covid 19 in which 21.57% are female and 8.82% male (figure 3 & 13) . About 54.81% believe that there is an age limit in taking ayurvedic medicine where about 3.37% are female and 23.53% are males , About 45.19% believe that there is no age limit in taking ayurvedic medicine where 27.45% are females and 17.65% are males( figure 4 ) . About 55.77% feel that ayurvedic is easy to follow in which 33.33% are female and 22.55% male. About 44.23% feel that ayurveda is not easy to follow in which 25.49% are female and 18.63% male ( figure 5 ). About 59.62% believe that the duration of treatment in ayurveda is a longer period where 37.25% are females and 22.55% are males , About 40.38% believe that ayurveda duration of treatment is in a shorter period where 21.57% are females and 18.63% are males (figure 6). About 81.73% believe that allopathy has more side effects in which 48.04% are females and 34.31% are males , About 18.27% believe that ayurvedic medicine has more side effects where 10.78% are females and 6.86% are males (figure 7 ). About 57.69% are aware of ayurvedic medicine in which 35.29% are female and 22.55% male. About 42.31% are not aware of ayurvedic medicine in which 23.53% are female and 18.63% male (figure 8 & 14). About 72.12% believe that ayurveda cannot manage emergency cases in which 44.12% are female and 27.45% male. About 27.88% believe that ayurveda can manage emergency cases in which 14.71% are female and 13.73% male. About 59.62% believe that ayurvedic medicine is more useful in prevention of covid 19 in which 34.31% are female and 25.49% male (figure 9 & 16 ). About 40.38% believe that ayurvedic medicine is not much useful in prevention of covid in which 24.51% are female and 15.69% male. About 59.62% believe that ayurvedic medicine is very useful in prevention of covid in which 34.31% are female and 25.49% males (figure 11&15) About 50.96% people are influenced in taking ayurvedic medicine by family friends in which 32.35% are female and 18.63% male. About 21.15%

people are influenced by social media in which 12.75% are female and 8.82% male. About 27.88% of people are influenced by others in which females and male are 13.73% (figure 10).

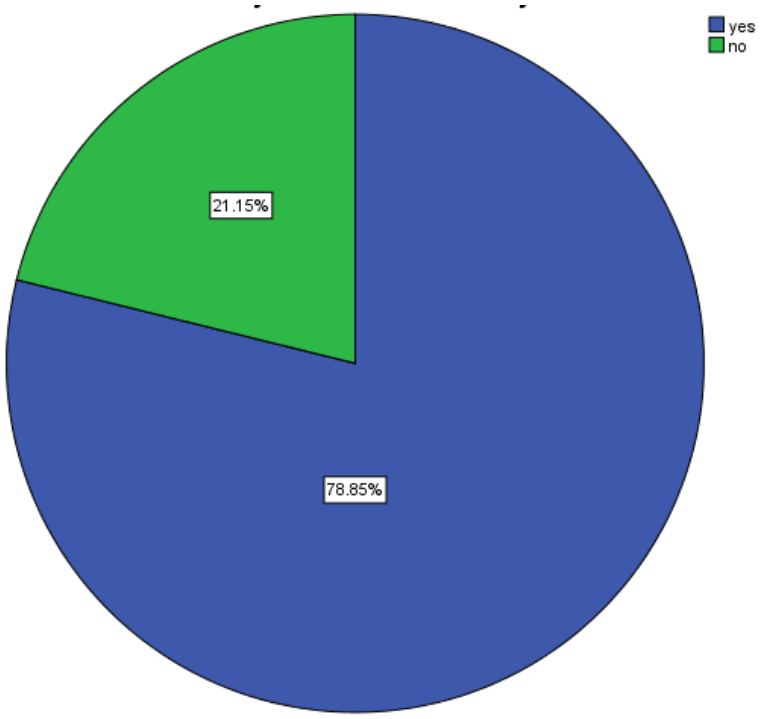


Figure 1 : Pie chart representing the belief of Participants on Indian ayurvedic medicine . Blue denotes ‘yes’ and green denotes ‘no’. 78.85% of participants believe in Indian ayurvedic medicine whereas 21.15% of participants do not believe in Indian ayurvedic medicine.

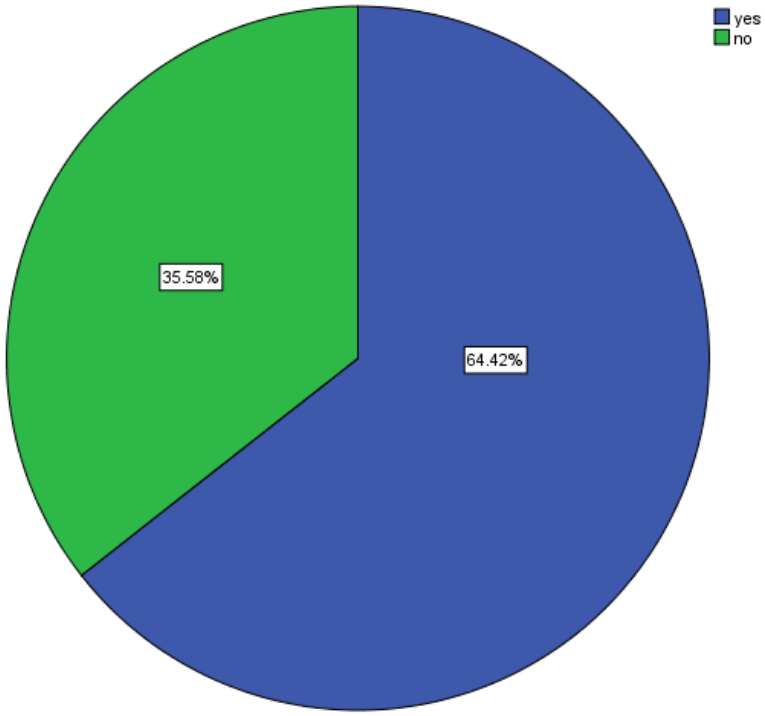


Figure 2 : Pie chart representing the preference of ayurvedic treatment over allopathy . Blue denotes 'yes' and green denotes ' no'. 64.42% of participants prefer ayurvedic over allopathy treatment whereas 35.58% of participants do not prefer ayurvedic over allopathy medicine.

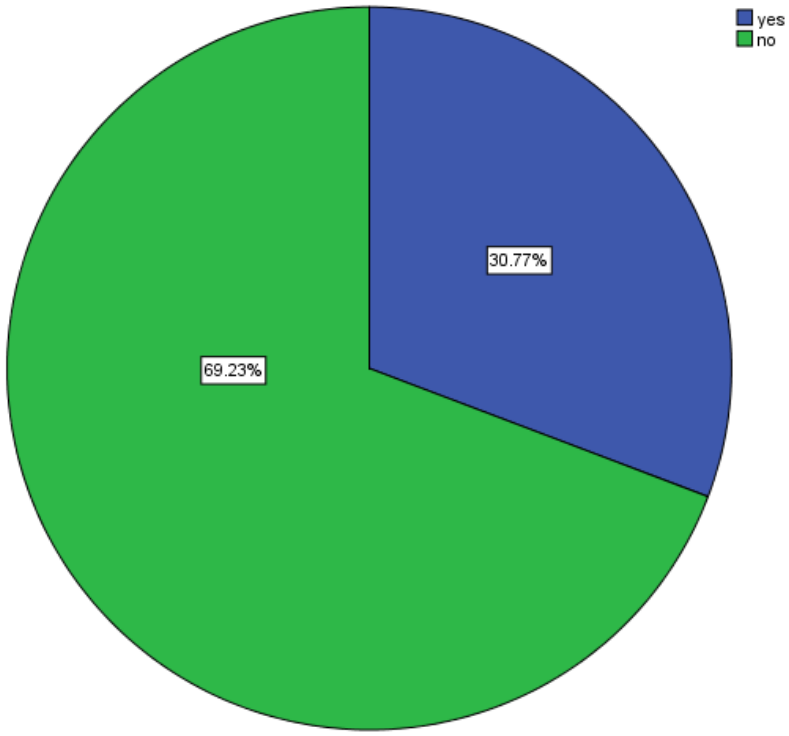


Figure 3 : Pie chart representing the response of participants regarding the intake of ayurvedic medicine during the covid period . Blue denotes 'yes' and green denotes ' no'. 30.77% of participants have taken ayurvedic medicine during covid period whereas 69.23% of participants have not taken ayurvedic medicine during covid period .

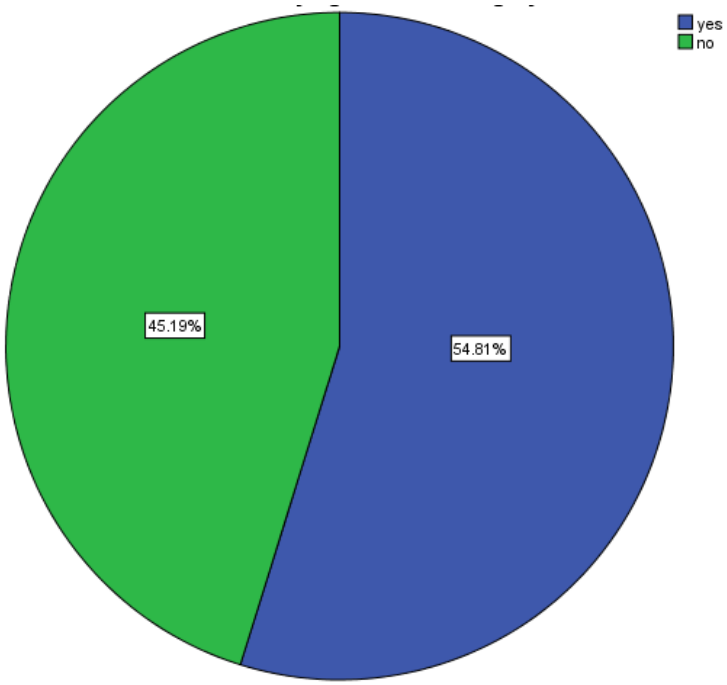


Figure 4 : Pie chart representing the response of participants regarding the age limit in taking ayurvedic medicine . Blue denotes 'yes' and green denotes ' no'. 54.81% of participants believe that there is an age limit to take ayurvedic medicine whereas 45.19% of participants believe that there is no age limit to take ayurvedic medicine .

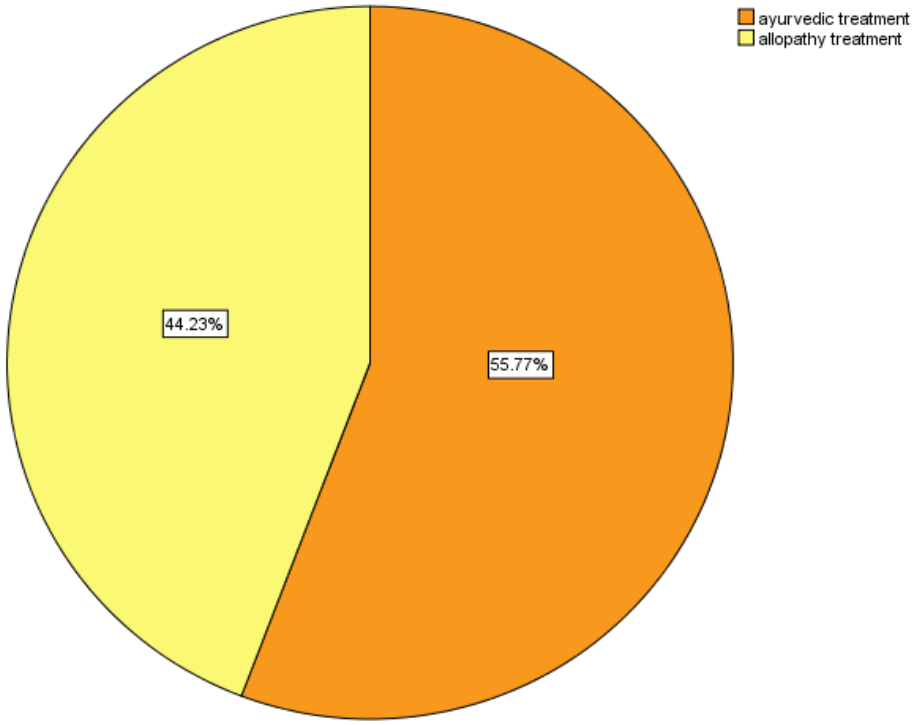


Figure 5 : Pie chart representing response of participants regarding the easiest mode of treatment to follow . Orange denotes 'Ayurvedic medicine' and yellow denotes 'Allopathy medicine.' 55.77% of participants believe that ayurvedic medicine is easy to follow whereas 44.23% of participants believe that allopathy is easy to follow.

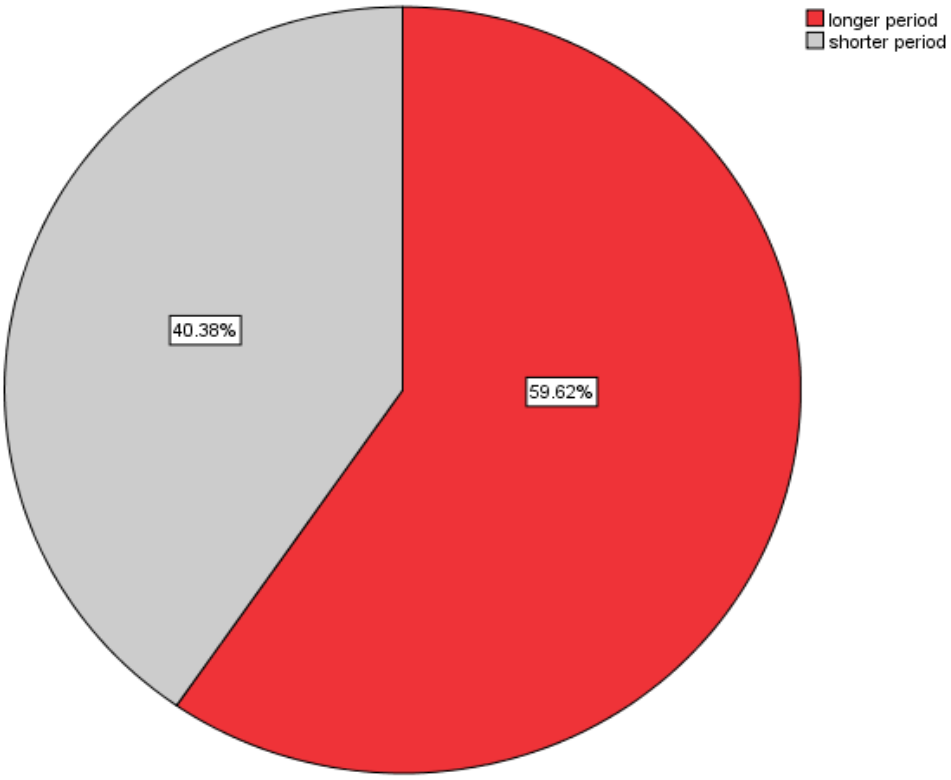


Figure 6 : Pie chart representing response regarding the duration of the treatment in ayurveda. Red denotes 'longer period' and grey denotes ' shorter period'. 59.62% of participants believe that the duration of the ayurveda is a longer period whereas 40.38% of participants believe that the duration of the ayurveda is a short period.

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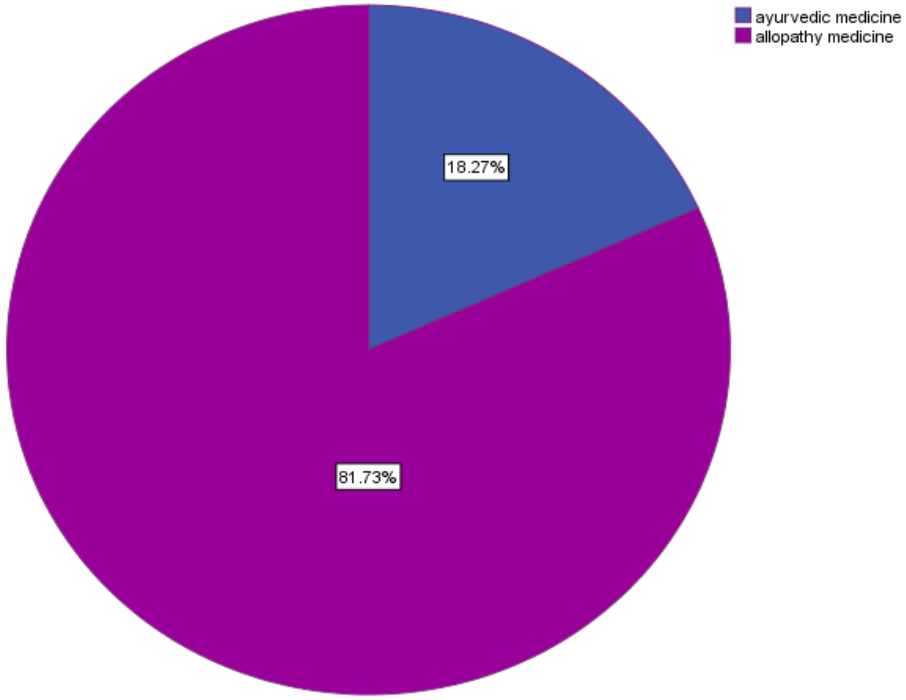


Figure 7 : Pie chart representing the response of participants regarding the method of treatment with more side effects . Blue denotes 'Ayurvedic medicine' and purple denotes ' Allopathy medicine'. 18.27% of participants believe that ayurvedic medicine has more side effects whereas 81.73% of participants believe that allopathy medicine has more side effects.

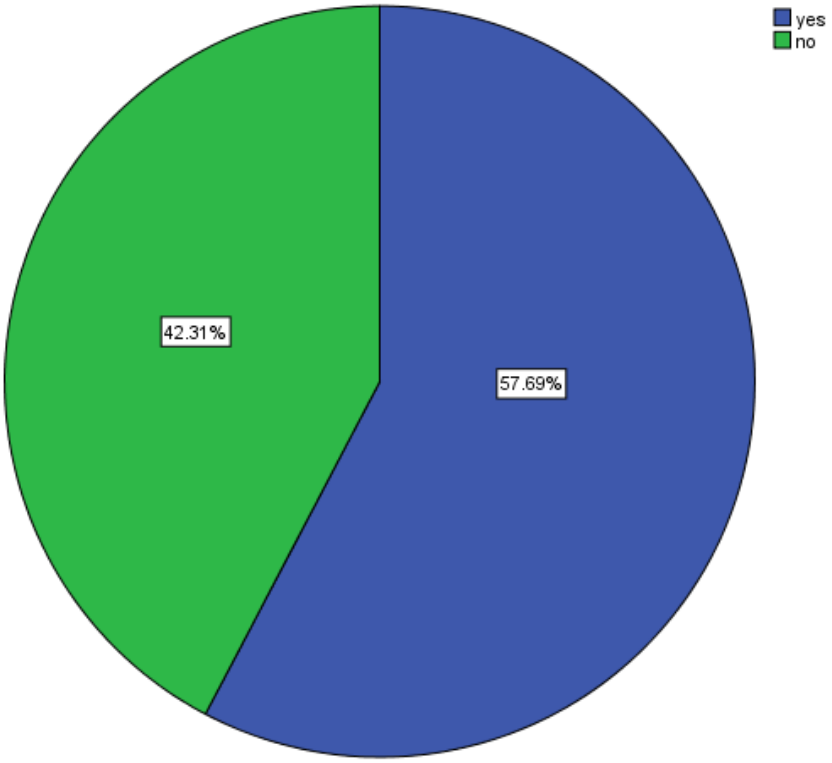


Figure 8 : Pie chart representing response of participants regarding the awareness about the ayurvedic medicines like talisule, dashmula and pipramool churns that fights against infections . Blue denotes 'yes' and green denotes ' no'. 57.69% of participants are aware of these ayurvedic medicines whereas 42.31% of participants are aware of these ayurvedic medicines.

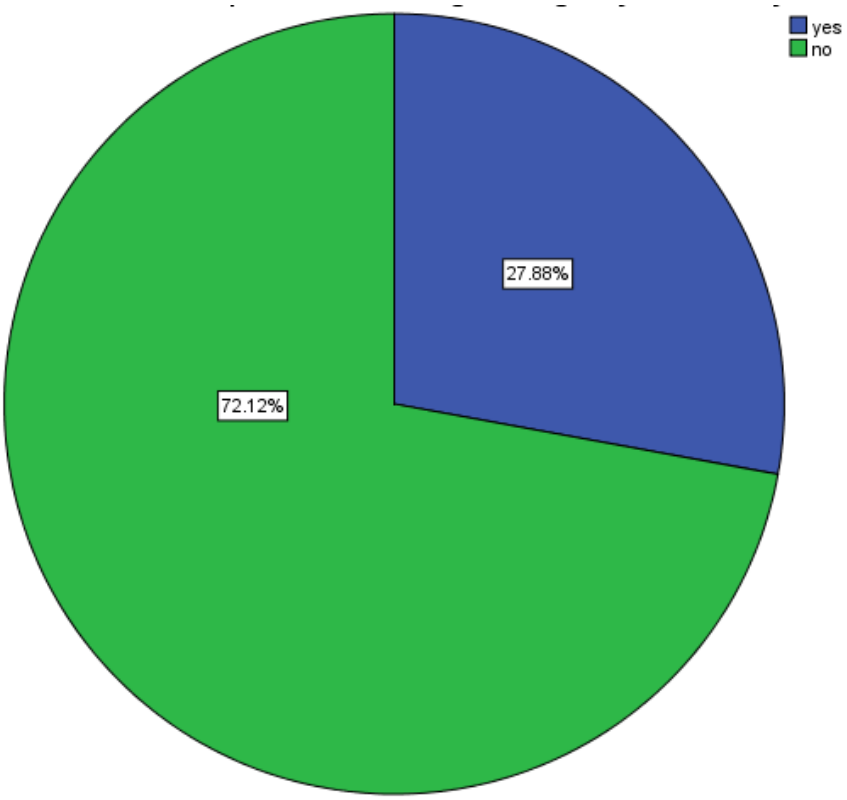


Figure 9 : Pie chart representing the response of participants regarding the management of emergency cases in ayurveda . Blue denotes 'yes' and green denotes ' no'. 27.88% of participants believe that ayurveda can manage emergency cases whereas 72.12% of participants believe that ayurveda cannot manage emergency cases.

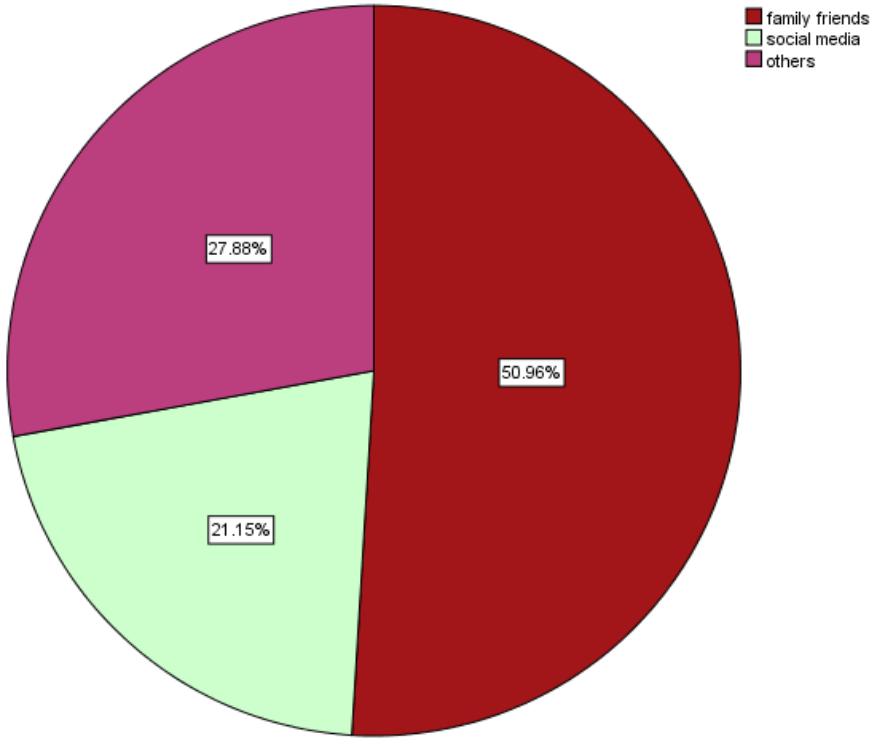


Figure 10 : Pie chart representing which people have influenced you in taking ayurvedic medicine . Maroon denotes 'family friends' and light green denotes 'social media' and pink denotes 'others'. 50.96% of participants are influenced by family friends whereas 21.15% of participants are influenced by social media and 27.88% are influenced by others.

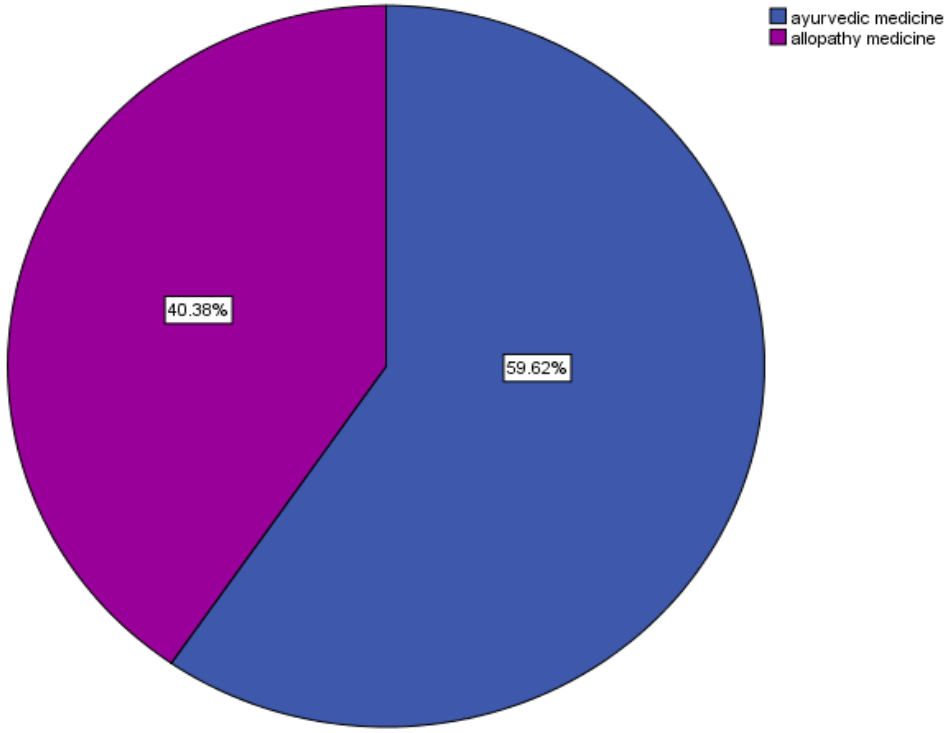


Figure 11 : Pie chart representing which mode of treatment is more useful in the prevention aspect of covid . Blue denotes 'Ayurvedic medicine' and purple denotes ' Allopathy medicine'. 59.62% of participants believe that ayurvedic medicine is more useful in the prevention whereas 40.38% of participants believe that allopathy medicine is more useful in the prevention aspect of covid.

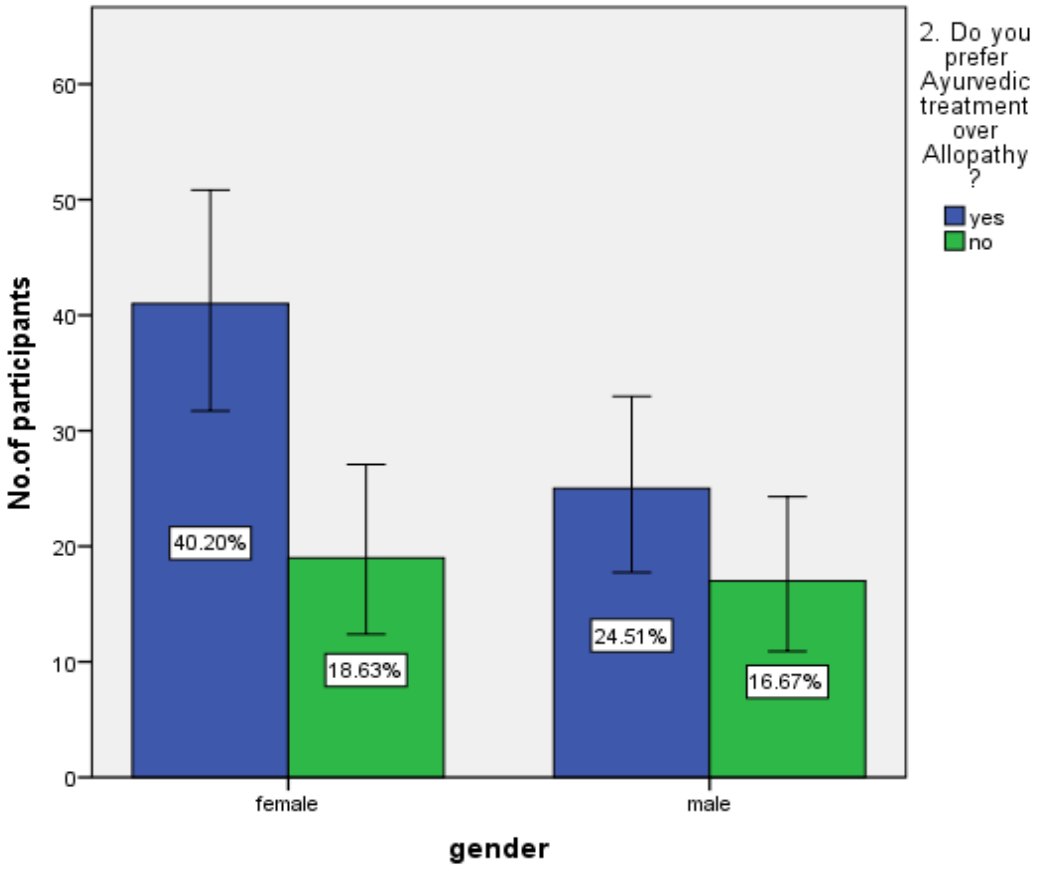


Figure 12: Bar graph represents the association between the gender and the preference of ayurvedic over allopathy treatment. X axis represents the gender and Y axis represents the number of responses for the amount of overall activity. Blue denotes 'yes' and green denotes 'no'. 40.20% of female participants and 24.51% of male participants prefer ayurvedic over allopathy treatment whereas 18.63% of females and 16.67% of males do not prefer ayurvedic over allopathy treatment. The differences between the groups are not statistically significant (chi square,p value is 0.360) .

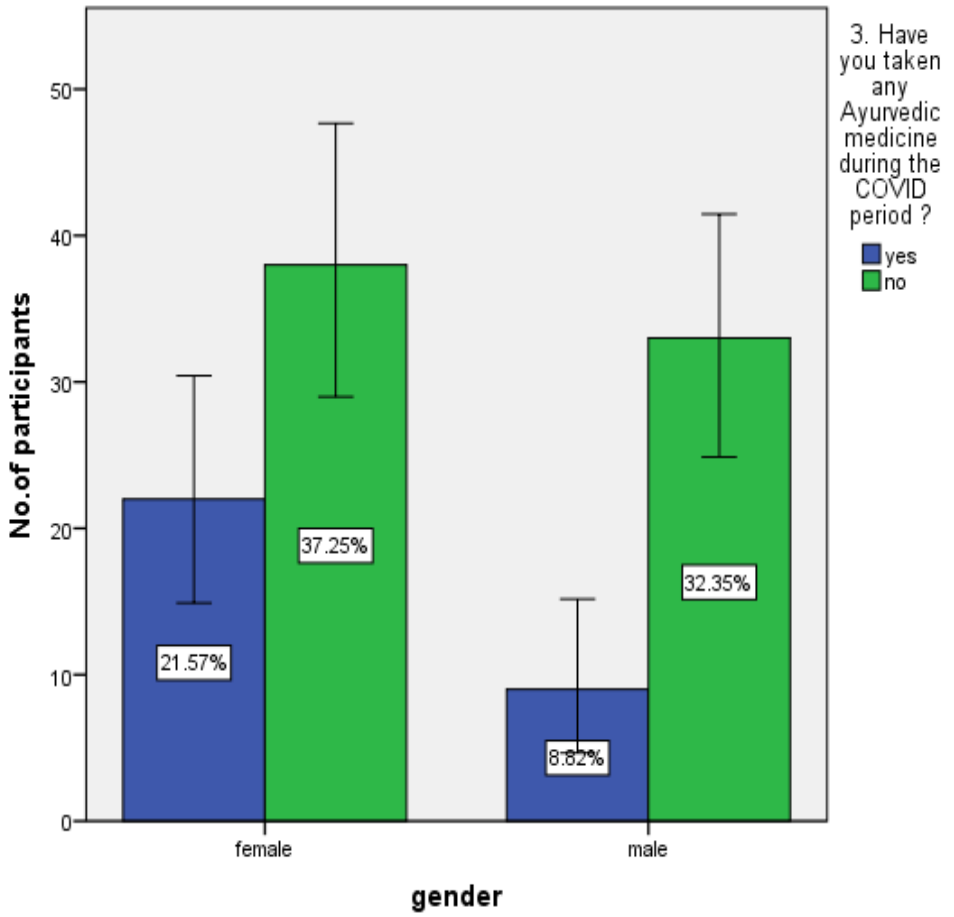


Figure 13: Bar graph represents the association between the gender and participants who have taken any ayurvedic medicine during covid . X axis represents the gender and Y axis represents the participants who have taken ayurvedic medicines during covid . Blue denotes 'yes' and green denotes 'no'. 37.25% of female participants and 32.35% of male participants responded that they have not taken any ayurvedic medicine during the covid whereas 21.57% of female and 8.82% of male participants have taken ayurvedic medicine during covid . The differences between the groups are not statistically significant (chi square,p value = 0.100) .

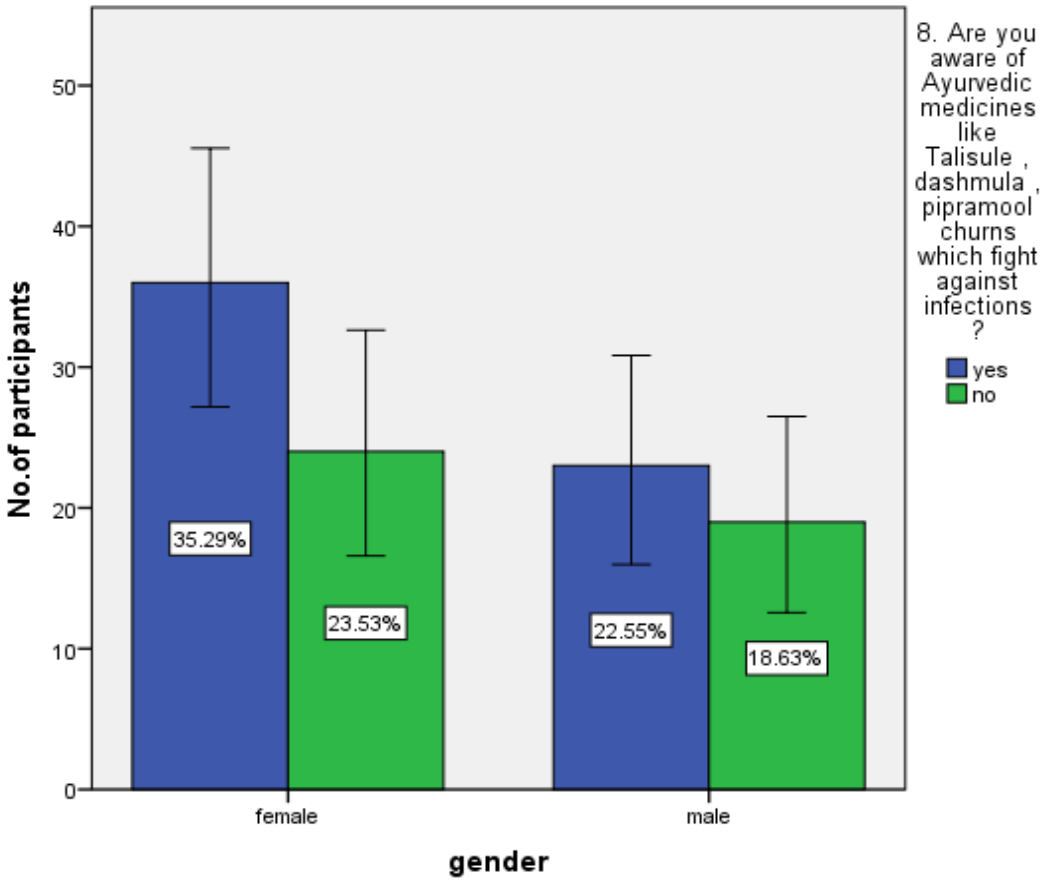


Figure 14 : Bar graph represents the association between the gender and the awareness of ayurvedic medicines like talisule, dashmula which fight against infections . X axis represents the gender and the Y axis represents the participants who are aware of the ayurvedic medicines like talisule, dashmula . Blue denotes 'yes' and green denotes 'no'. 35.29% of females and 22.55% of male participants are aware about ayurvedic medicines whereas 23.53% of females and 18.63% of male participants are not aware about ayurvedic medicine. chi-square, p value = 0.598, ( p value > 0.05) . Hence, it is statistically significant.

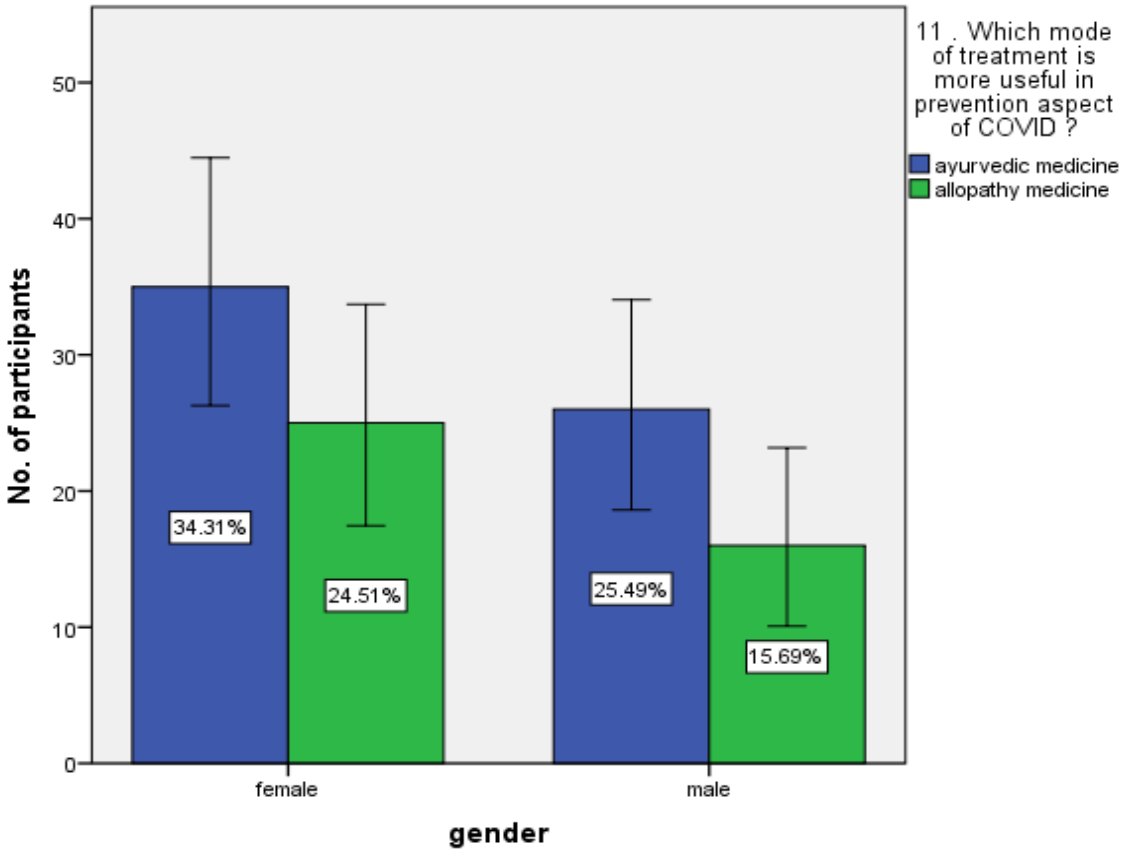


Figure 15 : Bar graph represents the association between the gender and the mode of treatment more useful in the prevention aspect of covid . X axis represents the gender and Y axis represents the mode of treatment useful in the prevention aspect of covid . Blue denotes 'ayurvedic medicine' and green denotes 'allopathy'. 34.31% of female and 25.49% of male participants felt that ayurveda treatment is more useful in the prevention aspect of covid whereas 24.51% of female and 15.69% of male participants felt that allopathy is more useful in the prevention aspect of covid. p value is 0.717, ( p value > 0.05) . Hence, it is statistically significant.

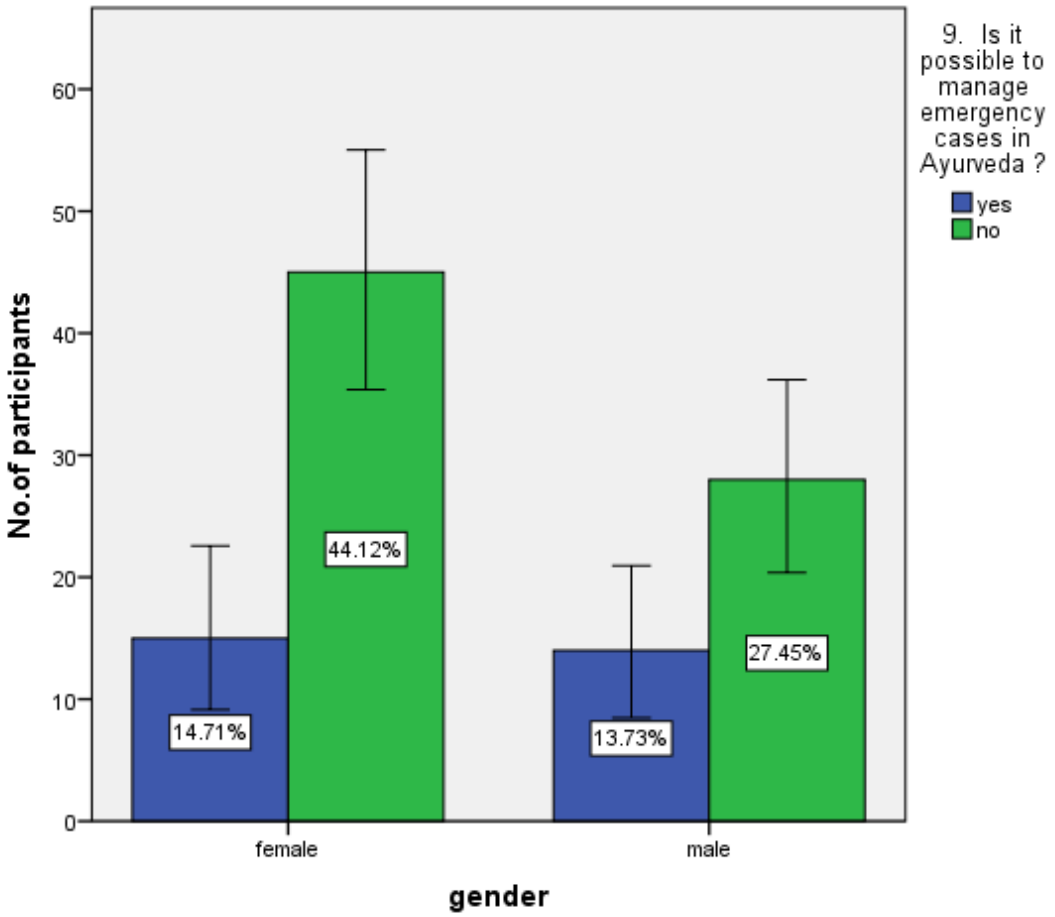


Figure 16 : Bar graph represents the association between the gender and whether ayurveda can manage emergency cases . X axis represents the gender and Y axis represents the participants on whether ayurveda can manage emergency cases . Blue denotes 'yes' and green denotes 'no'. 44.12% of female and 27.45% of male participants felt that ayurveda cannot handle emergency cases whereas 14.71% of female and 13.73% of male participant felt that ayurveda can handle emergency cases. p value is 0.358, ( p value > 0.05) . Hence, it is statistically not significant.

**DISCUSSION:**

Ayurvedic medicine is one of the various herbal medicines that are capable of acting as an immunity booster as well as working forward for the cure of acute and chronic diseases. From the study by Gadgil et al , on ayurvedic and allopathy medicines, we infer the one main feature that differentiates between ayurveda and allopathy is the clear knowledge of health. Ayurveda perfectly describes the state of the body with the difference between healthy and unhealthy with clarity of the problem. Allopathy

medicines do not work on the utmost of the problem(28). When compared with the present study it shows the importance of ayurvedic medicine over allopathy.

In a study by Niraj et al , is based on the medicines that are used to increase the immunity level of the body. From the herbs present Rasayana chikitsa acts as immunomodulator therapy which is a leading medicine. Rasayana which helps to improve the defence mechanism and longevity (29). Whereas in the present study Talisule an ayurvedic medicine is used in the treatment of upper respiratory tract and in improving the immune system.

In a study by Joshi et al , is based on the duration of the ayurvedic medicine in which a covid patient has taken ayurvedic medicine which suited her body and gave a speedy recovery within a particular period of time when compared with the allopathy medicines(30) when compared to this study it shows ayurvedic treatment is more useful in prevention of the covid in a shorter duration.

In a study by Nanavaty et al,is based on the influencement of taking ayurvedic medicines where about 20.15% was influenced by social media, about 25.85% was influenced by family friends(31) when compared with the present study 50.96% was influenced by family friends and 21.15% was influenced by social media where ayurveda is influenced majority by family friends when compared with the previous study.

From the present study, about 27.88% believe that ayurvedic mode of treatment can be used to handle emergency cases when compared to that of the previous study, In a study by Jawla et al, is based on ayurvedic medicine handling emergency cases is about 20% and about 79% believe that ayurveda cannot handle emergency cases(32)

On the basis of another study describing the side effects of the ayurvedic medicine in which ayurvedic pharmacology mentions the side effects of different therapeutic drugs and it also provides a solution to minimize the side effects and give the full detail on the do's and not do's (33) whereas from the present study it shows ayurvedic has less number of effects when compared to that of the allopathy medicines as it does not give a remedy on the side effect. The limitation of the study is that this survey could be taken with more number of participants and more questionnaires.

The future scope of the study is that more number of participants should be included with an increased number of questionnaires based on ayurveda and participants from different places should be included in the survey to generalise to the entire population .

**CONCLUSION:**

Within the limitations of the study it can be concluded that overall awareness levels of the general public on beneficiary effects of ayurvedic medicine was good. Ayurvedic herbal medicines are involved more in immunity boosters and help in prevention of the disease. More awareness programs and camps on ayurvedic medicine can spread and validate the effectiveness of ayurveda. This research can help to bring awareness on the ayurvedic potential to boost the body's immunity against covid 19 and gives more consciousness about the ayurvedic medicine.

**AUTHOR CONTRIBUTIONS**

Author 1: Sheron Blessy , carried out the study by collecting data and drafted the manuscript after performing the necessary statistical analysis and in the preparation of the manuscript.

Author 2 and 3: Dr.Gheena, Dr.Sandhya aided in conception of the topic, designing the study and supervision of the study, correction and final approval of the manuscript.

**ACKNOWLEDGEMENT**

Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Science, Saveetha University

**CONFLICTS OF INTEREST**

None declared.

**SOURCE OF FUNDING :**

The present study was supported by the following agencies

- Saveetha Dental College ,
- Saveetha Institute of Medical and Technical Science,
- Saveetha University
- Pushpavin Hospital

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**ANNEXURE:**

| Question | Response rate | Answer categories | Response (In No) | Response (In %) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Belief in Indian ayurvedic medicine | 100% | 1. Yes<br>2. No | 82<br>22 | 78.85%<br>21.15% |
| Preference of ayurvedic over allopathy medicine | 100% | 1. Yes<br>2. No | 67<br>37 | 64.42%<br>35.58% |
| Any ayurvedic medicine taken during covid | 100% | 1. Yes<br>2. No | 32<br>72 | 30.77%<br>69.23% |
| Ayurveda medicine has age limit | 100% | 1. Yes<br>2. No | 57<br>47 | 54.81%<br>45.19% |
| Treatment that is easy to follow | 100% | 1. Yes<br>2. No | 58<br>46 | 55.77%<br>44.23% |

| | | | | |
|---|---|---|---|---|
| Duration of treatment in Ayurveda | 100% | 1. Longer period<br>2. Shorter period | 62<br>42 | 59.62%<br>40.38% |
| Treatment that has more number of side effects | 100% | 1. Ayurvedic medicine<br>2. Allopathy medicine | 19<br>85 | 18.27%<br>81.73% |
| Awareness of ayurvedic medicines | 100% | 1. Yes<br>2. No | 60<br>44 | 57.69%<br>42.31% |
| Possibility of Ayurveda to manage emergency cases | 100% | 1. Yes<br>2. No | 29<br>75 | 27.88%<br>72.12% |

| | | | | |
|---|---|---|---|---|
| Influencing in taking ayurvedic medicine | 100% | 1. Family friends<br>2. Social media<br>3. Others | 53<br>22<br>29 | 50.96%<br>21.15%<br>27.88% |
| Mode of treatment more useful in prevention of covid | 100% | 1. Ayurvedic medicine<br>2. Allopathy medicine | 62<br>42 | 59.62%<br>40.38% |