MS.ID-IJPBS-5406
International Journal of Pharmacy and Biological Sciences-IJPBS™ (2023) 13 (4): 137-157
Online ISSN: 2230-7605, Print ISSN: 2321-3272
Research Article | Pharmaceutical Sciences | OA Journal | MCI Approved | Index Copernicus

Quality Of Life Assessment of Covid-19 Patients with Pharmacoeconomics Perspective

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Received: 22 Jul 2023/ Accepted: 6 Aug 2023 / Published online: 1 Oct 2023
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Abstract

BACKGROUND: Corona virus or SARS CoV-2 becomes a deadly infectious disease leading to severe respiratory distress causing mortality in older population and severe respiratory illness in adults and children. On 31st Jan 2020 WHO declares "A global health emergency" in worldwide & 11th mar 2020 as pandemic situation which is expected to be zoonotic in nature. The incubation period is 1-14 days & for second exposure up to 24 days The Quality of life of COVID 19 patients depends upon 4 primary dimensions (functional wellbeing, emotional wellbeing, social wellbeing) along with QOL domains, various assessments forms have also done like WHO questionnaires to analysed QOL in COVID 19 individuals. Pharmacoeconomics helps in analysing costs of drug therapy in health care system which causes health care burden to society. Various Pharmacoeconomics methods evaluates cost of treatment and treatment outcomes. This study explains about various costs associated in COVID19 treatment till its recovery/death. QOL assessment shows that need to be improved & Pharmacoeconomics aspects reveals that cost burden is more in covid positive individuals. **METHODOLOGY:** This is a prospective multicentric study carried out for a period of six months. The study included the covid positive and non-infected subjects. The subjects who have filled in the consent form are taken into the study and necessary data was collected through the telephonic interview, google forms. All the data that is documented in suitable data collection form and analyzed. **RESULTS:** In our study it was found that male affected more than women usually young adults are having BMI ranges 18.5 -24.9 kg/m^2 in that if was observed that majority are symptomatic who are home quarantine for 2 -3 weeks with recovery rate 80 %. **CONCLUSION:** During the study period it was observed that covid infected subjects experienced lot of challenges in their treatment period which helps us in doing this study. Covid positive people were in more stress when compared covid negative group. Overall, the covid positive people have faced more of the financial difficulties when compared to covid negative population. The support of family and friends was found to be crucial during the pandemic. Covid patients were more financially burdened than covid negative patients.

Keywords

Covid 19, Quality of life, Pharmacoeconomics, Home quarantine, financial burden.

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INTRODUCTION:

Corona virus or SARS CoV-2 becomes a deadly infectious disease leading to severe respiratory distress and in more severity causes mortality/death. According to a study it has a fatality rate of 3.4%, Pathophysiology varies in both healthy and Co-morbid population. Mutations & Deletions in the viral genome leading more transmission between healthy and non-healthy people irrespective of Ecological & geological distribution. The management in elderly patients is more complex which requires mechanical ventilation thereby

increasing the hospital stay (Pharmacoeconomics) only supportive care and symptomatic management is initiated as COVID-19 vaccines are in pre-clinical stage[1].

Quality of life is defined as the well-being of a population with positive and the negative elements at a particular point of time. It mainly considers the person's feelings, physical health, psychological health, social relationships. Recognition is a concern for making more explicit the long-held conviction within medicine that no goal can logically be more important than optimal patient functioning and well-being**.** This includes the review of quality of life in covid-19 patients. It explains the different factors, domains of quality of life, different scales used to assess the quality of life in covid-19 patients. The study design, variables study, data analysis, questionnaire forms, socio-demographic characteristics are discussed. This review may help to gain knowledge of quality of life in covid 19 patients and to avoid future problems of this pandemic disease[2].

Pharmacoeconomics is the branch of economics that applies the cost-benefit, cost-effectiveness, cost-minimization and cost-utility analyses. Comparing the economics of different pharmaceutical products or a drug therapy to the non-drug therapy or treatment. Pharmacoeconomics is defined as the description and analysis of the costs of drug therapy to the health care system and society. Pharmacoeconomic identifies, measures and compare the resources cost and clinical, economic and humanistic consequences. The research methods include cost minimization, cost-effectiveness, cost benefit, cost of illness, cost utility, cost consequences and decision analysis. It focuses on cost and benefits of drug therapy[5].

Adverse drug reactions (ADRs) are an established risk to medication use. As defined by the World Health Organization (WHO), an ADR is any response that is noxious and unintended, and that occurs at doses normally used in humans for the prophylaxis, diagnosis, therapy of disease, or for the modification physiological function.

ADRs associated morbidity and mortality impose a burden to patient's health and health care costs. Unfortunately, not all ADRs can be identified in clinical trials, and so post-marketing surveillance is imperative in identifying and evaluating those risks associated with medication use. Spontaneous reporting of unusual or previously unpredicted ADRs by health care professionals (HCPs) can accordingly reduce such risk and promote the safe use of medications. The main advantage of spontaneous reporting is its ability to cover the entire population, which use a wide range of medications, thus identifying rare ADRs as early as possible. Nevertheless, only 6–10% of ADRs area actually reported to drug authorities in Europe, Canada and USA, making underreporting of ADRs a major limitation of spontaneous reporting. In an effort to strengthen the pharmacovigilance in India, government has initiated pharmacovigilance programme of India. Spontaneous reporting of adverse drug reaction is globally practiced it under pharmacovigilance programme. But the major drawback of this system is underreporting. The finding of study suggests a huge scope for improving the awareness about ADRs[6].

MATERIALS AND METHODS:

The present study was conducted in KIMS hospital, Kondapur. The data was collected from the community through the Google forms with the help of electronic media. The present study is a prospective study where the subjects were randomly chosen, and the questionnaire was filled by them personally the study period of this study was 6 months and study carried out throughout the region of Telangana.

The study was conducted with strict adherence to the mandatory norms. The study was conducted after the patient consent was taken.

Covid positive people were included in the study and also the patients with co morbidities such as hypertension diabetes when it is asthma renal diseases were also included in the study. Exclusion criteria of the study work over negative people but for the quality-of-life and pharmacoeconomic assessment the data was taken for comparison.

The main source of the data was by interviewing the people through the telephonic interview and also through the social media such as WhatsApp and Google form.

The methodology of the study includes the patients who meet the study criteria were enrolled into the study the data was collected from the patient case sheet through telephonic conversation through Google form and interviewing on video call and to social media platforms such as WhatsApp.

Pharmacoeconomic perspective of the study was designed to evaluate the economic burden on the patients and cost benefit of this particular patients were analysed. Quality of life assessment on covid-19 patients was conducted on WHOQOL-BREF questionnaire form and collected data was kept confidential throughout the study. The questionnaire of this study was carefully designed, and the options were given to acquire the required answers from the participants in the study.

RESULT AND DISCUSSION

Table 1: Showing the psychological stress pattens of covid positive and negative groups.

Worried	Positive	Negative
Mild	24%	24%
Moderate	51%	33%
Severe	21%	9%
Not at all	4%	34%

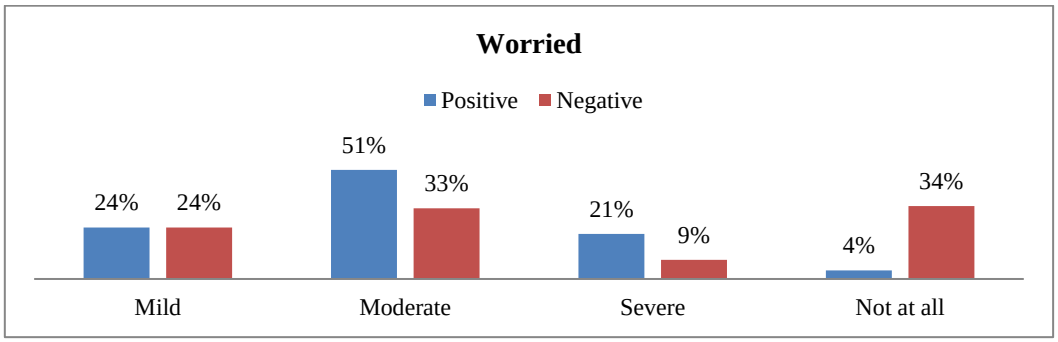

Fig: 1 Showing the psychological stress patterns of covid positive and negative groups.

Table 1 & Fig 1 Showing the psychological stress patterns of covid positive and negative groups. The psychological profile of the study has shown that both covid positive and negative people were worried to a mild extent which was about 24% which was common in both the groups. Moderate stress was reported in covid positive people about 51% and negative people 33% amount of stress was reported by 21% of the participants who are covid positive and 9% covid negative stress did not affect covid negative people about 34% whereas covid positive people have shown ovary which constituted to 4%. Covid positive people were in more stress when compared covid negative group.

Table 2: Showing the comparison of financial difficulties of the covid positive and negative group.

Financial difficulties	Positive	Negative
Mild	34%	20%
Moderate	40%	23%
Severe	9%	4%
Not at all	17%	53%

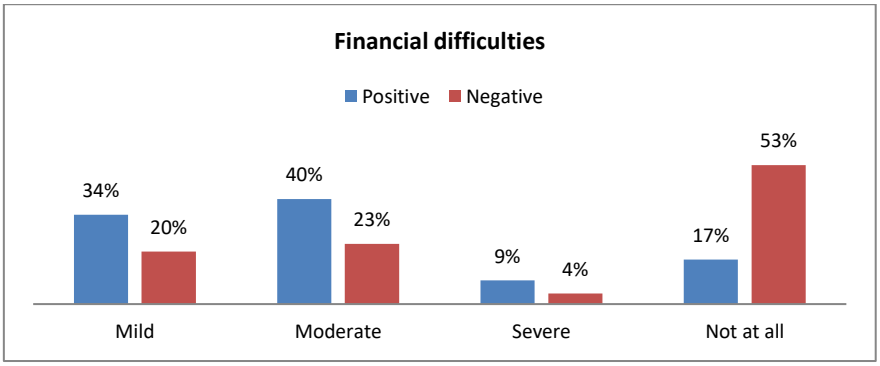

Fig: 2 Showing the comparison of financial difficulties of the covid positive and negative group.

Table 2 & Fig 2 Shows the comparison of financial difficulties of the covid positive and negative group. Financial difficulties were found to be 34% in covid positive people whereas 20% in covid negative people which fell in the category with mild financial difficulties. 40% of covid positive the people have reported to have moderate financial difficulties where the covid negative people have shown to have 23% of moderate financial difficulties. Severe financial difficulties were reported up to 9% covid positive people whereas covid negative people have reported to have severe financial difficulties which

was 4%. Covid negative people about 53% reported to have no financial difficulties whereas 17% of the participants who could positive show did not have any financial difficulties. Overall, the covid positive people have faced more of the financial difficulties when compared to covid negative population.

Table 3: Showing the impact of family and friend's support.

Family, Friends support	Positive	Negative
Yes	96%	64%
No	3%	12%
Not at all	1%	24%

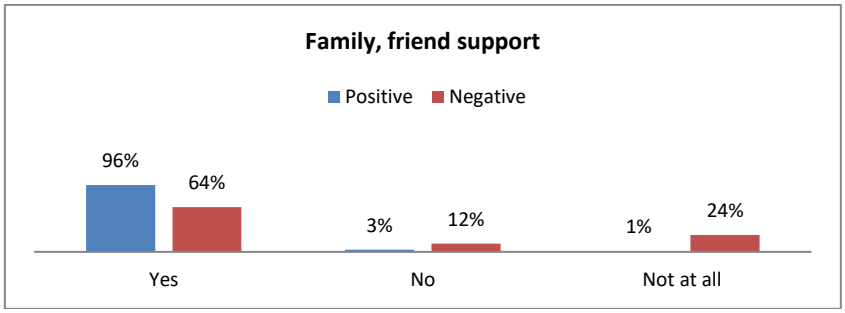

Fig: 3 Showing the impact of family and friend's support.

Table 3 & Fig 3 Showing the impact of family and friend's support. In testing times like the pandemic covid positive people reported 96% of people had family support whereas covid negative people reported 64%. 3% of the covid-19 people reported they did not have any family and friends support has a covid negative people have reported 12% of the participants did not have family and friends' support. The support of family and friends was found to be crucial during the pandemic.

Table 4: Showing the availability of the transportation facility.

Transport	Positive	Negative
Very dissatisfied	0%	1%
Dissatisfied	3%	4%
Neither dissatisfied nor satisfied	15%	19%
Satisfied	29%	26%
Very satisfied	4%	4%
Transport was not necessary	49%	46%

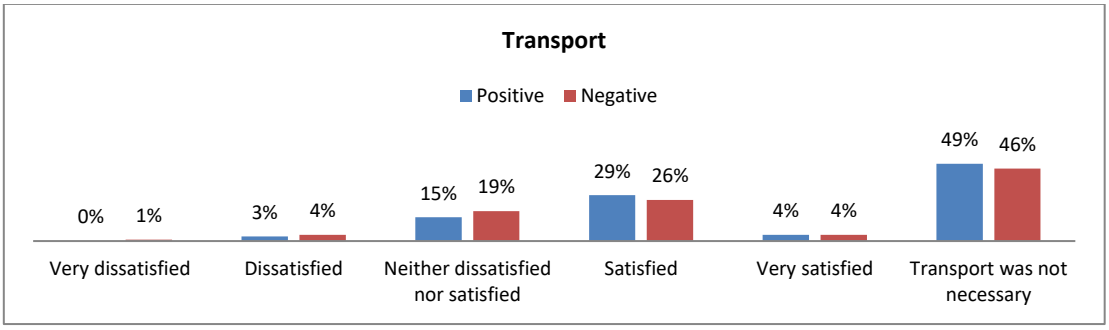

Fig: 4 Showing the availability of the transportation facility.

Table 4 & Fig 4 Showing the availability of the transportation facility. The transportation facility during the pandemic time who had positive people have shown no transportation problem whereas negative people have reported to have 1% of very much dissatisfaction towards the ambulance transport. 3% of covid-19 people reported they were dissatisfied whereas covid negative people reported about 4% of the people they were dissatisfied with the ambulance service. 15% and 19% of covid-19 covid negative people respectively have determined that they were neither dissatisfied not they were

satisfied about the ambulance service. Whereas 4% of both the covid positive and negative people have reported to have very satisfied by transportation facility during the pandemic time. About 49% of the participants who were found to be positive reported the transportation was not necessary as a negative people reported 46% of the people have had no transportation problem. Ambulance facility for transportation was not satisfactory during pandemic.

Table 5: Showing the effect of pandemic on work and daily life.

Work & daily life affected	Positive	Negative
Not at all	7%	36%
A little	30%	24%
Moderately	42%	27%
Mostly	16%	11%
Completely	5%	2%

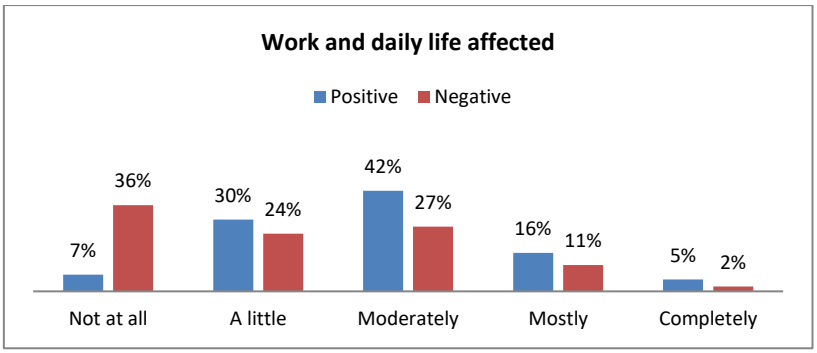

Fig: 5 Showing the effect of pandemic on work and daily life.

Table 5 & Fig 5 Showing the effect of pandemic on work and daily life. Work in daily life was not at all affected to about 7% of covid positive people and 36% of the covid-19 negative people. 30% of positive people have reported to have moderately affected work in daily life activities during the pandemic time whereas 24% of the people who were covid negative have also reported work in daily life has been affected because of pandemic to a little extent. Moderate effect on work and daily life was reported by covid positive people to be 42% where are score with negative people have reported 27% of work and daily life effect during pandemic. Mostly affected group 16% of covid positive people and 11% of covid negative people. Whereas completely affected people but 5% in covid positive group and 2% in covid negative group. Work and daily life of covid positive people was more effected when compared to covid negative group.

Table 6: Showing the practice of home remedies during pandemic.

Follow home remedies	Positive	Negative
Yes	98%	79%
No	1%	15%
Not at all	1%	6%

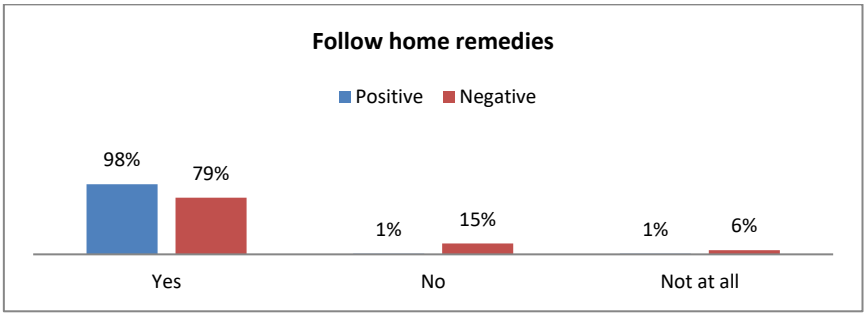

Fig: 6 Showing the practice of home remedies during pandemic.

Table 6 & Fig 6 Showing the practice of home remedies during pandemic. The home remedy is where highly followed during the pandemic time and 98% of the covid positive people have followed the home remedies and 79% of covid negative people have also for the home remedies 1% of covid positive people did not follow the home remedies and 15% of the people who are covid negative did not follow the home remedies.

Table 7: Showing summary of the home remedies followed during the pandemic.

Home remedies	Positive	Negative
Warm water gargle	15%	56%
Using a steam inhalation machine	12%	36%
Doing exercise	8%	31%
Ginger water	11%	33%
Salt gargle water	9%	29%
Drinking turmeric water	10%	34%
Using pepper powder	7%	26%
Giloy	1%	2%
Inhaling steam with green camphor & eucalyptus	10%	23%
Drink lukewarm water	11%	45%
Honey	6%	17%
None of the above	0%	17%

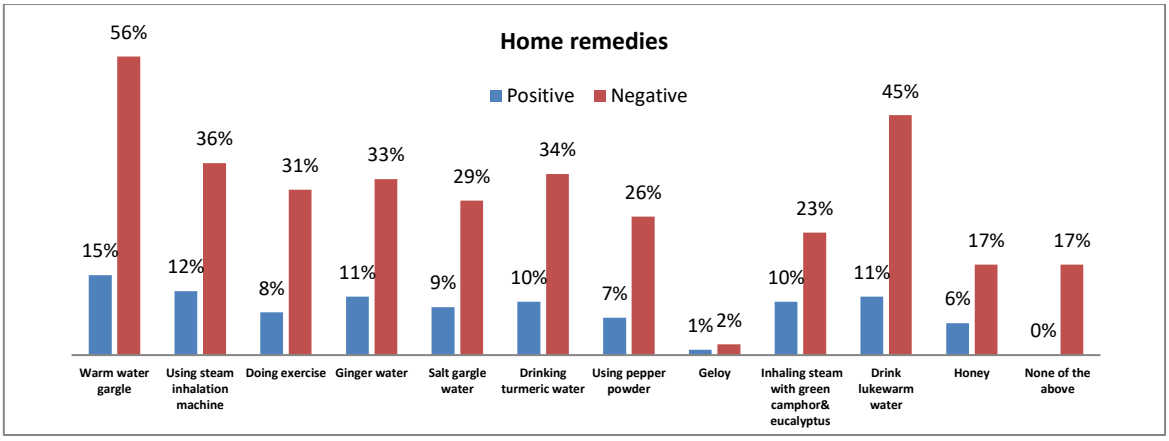

Fig 7: Showing summary of the home remedies followed during the pandemic.

Nonpharmacological method was highly adapted during the pandemic which included warm water gargle, using steam inhalation, doing exercise, ginger water, salt gargle water, drinking turmeric water, using pepper powder drinking herbal extract of giloy steam inhalation with camphor and eucalyptus drinking lukewarm water and honey. In various home remedies the majority of the people have followed warm water gargle in both covid positive and negative people which constituted to 15% and 56% respectively. Drinking lukewarm water constituted to next highest home remedy method which was followed during this pandemic which was about 11% and 33% in covid positive and negative people respectively. Rest of the methods where moral is similar which was widely followed by covid negative people more than the covid positive people.

Table 8: Impact of the home remedies.

Satisfied with home remedies	Positive	Negative
Not at all	2%	15%
A little	4%	14%
Moderate	40%	22%
Mostly	47%	37%
Completely	7%	12%

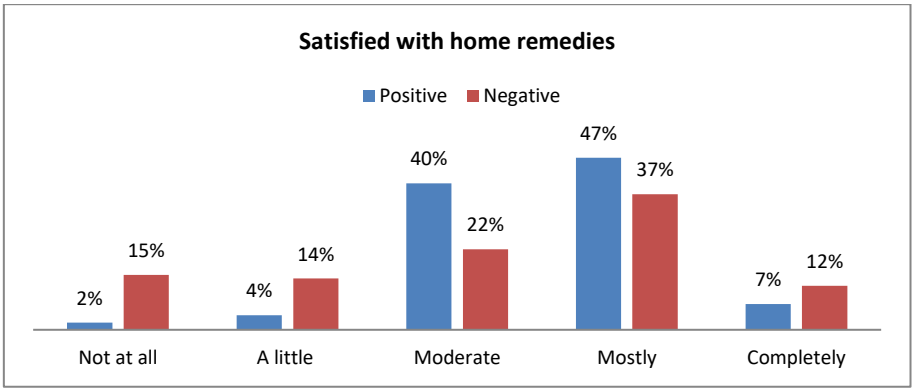

Fig 8: Impact of the home remedies.

Table 8 & Fig 8 Impact of the home remedies. The satisfaction that was achieved by practicing home remedies 2% of covid positive people reported they were not at all satisfied whereas covid negative people have reported to be 15% was not talk satisfied. 4% of covid positive people have reported they were satisfied a little where are scope in negative people have reported they have been satisfied a little which was about 14% of the people participated in the study. Whereas moderately satisfied people were 40% and 22% of covid-19 active people respectively. Mostly satisfied people were covid positive patients which were 47% and 37% of covid negative group. Completely satisfied group of the people who participated in this study were 7% of the covid positive people and 12% of the covid negative people.

Table 9: Summary of the depression and stress in covid positive and negative groups.

Depressed or stressed	Positive	Negative
Not at all	13%	44%
A little	29%	29%
Moderate	32%	19%
Mostly	17%	8%
Completely	9%	0%

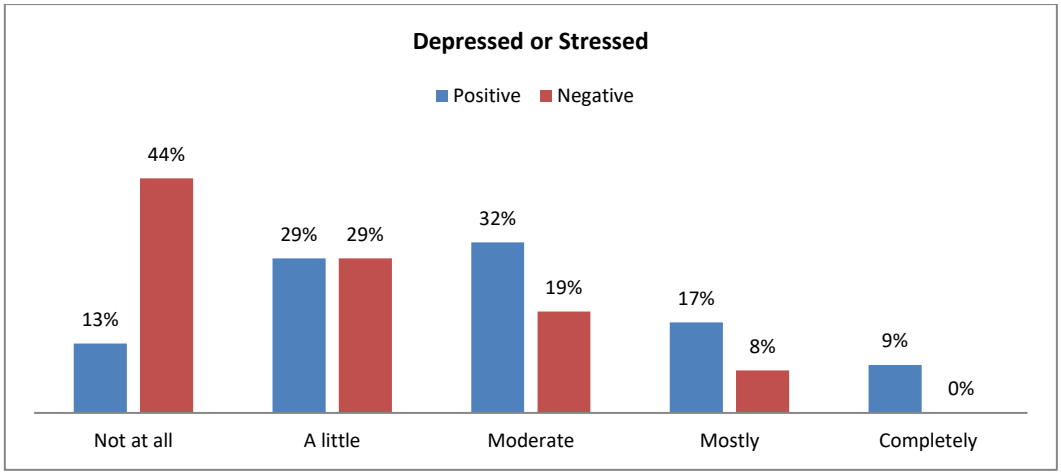

Fig 9: Summary of the depression and stress in covid positive and negative groups.

Table 9 & Fig 9 The stressed and depressed group of people during the pandemic time were 9% of covid-19 participants who are completely depressed during the infection. Most depressed group of people where 17% of positive group and 8% of covid negative group. The group of people reported they were little depressed or stressed did the pandemic were about 29 % of the positive people and 29% of covid negative people which determines that the pandemic situation has imposed great amount of stress and depression irrespective of the people were positive or negative. 13% of covid positive patients and 44% of covid negative people reported they were not at all depressed or stressed during this pandemic time.

Table 10: Showing the impact of diet.

Satisfied with your diet	Positive	Negative
Yes	95%	80%
No	5%	6%
Not at all	0%	14%

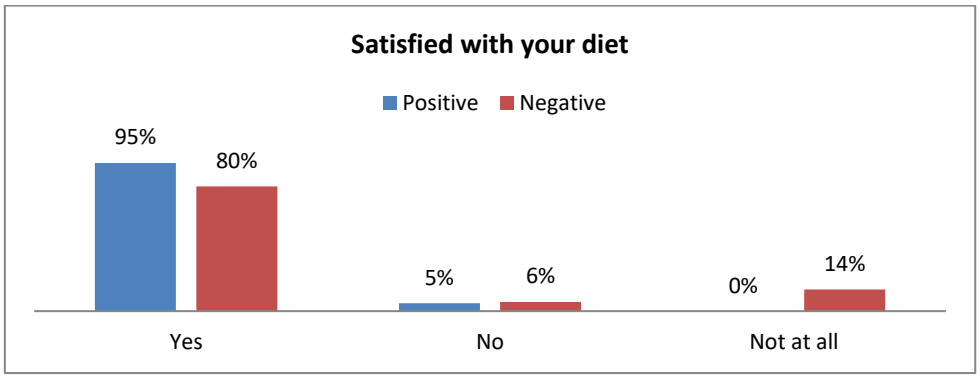

Fig 10: Showing the impact of diet.

Balance nutrition and Diet played a huge role in the recovery process in all the covid patients. 95% of the covid positive people were very much satisfied with the diet they have followed during pandemic whereas 80% of the people covid negative reported they were satisfied with the diet. 5% of people and 6% of covid positive people reported that they were not satisfied with the diet. 0% of covid-19 people and 14% of covid negative people have reported they were not at all satisfied by the diet which shows that has a significant role to play during the covid infection. The intake, impact and awareness of the diet were highly significant during the pandemic.

Table 11: Summary of supplements taken during pandemic.

Diet	Positive	Negative
ORS fluids	9%	5%
Hot water	20%	57%
High energy food	21%	33%
Dry fruits	17%	35%
Vitamin C fruits	20%	56%
Coconut water	9%	18%
Ordered outside food by online services	4%	4%
None of the above	0%	21%

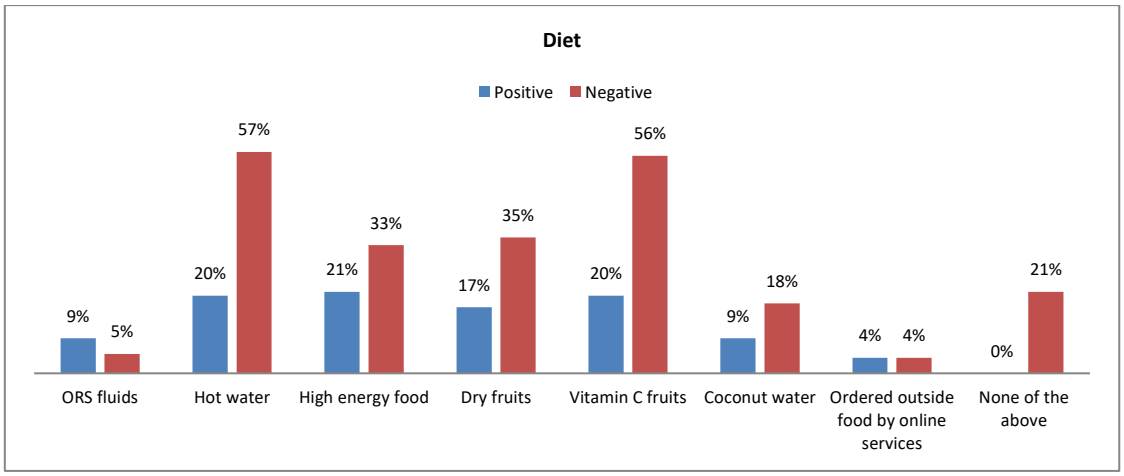

Fig: 11 Summary of supplements taken during pandemic.

Supporting treatment with over a fluid hot water high-energy foods dry fruits vitamin c containing fruits coconut water and food order from outside were included in the diet people have followed during the pandemic time. In the date mentioned in the study 9% of covid positive people and 5% of covid negative people have reported to show benefits with ORS fluid. 20% of covid positive people 57% of covid negative people have shown the importance of hot water drinking during the pandemic time. 21% of the covid positive people and 33% of covid negative people have supported high energy food intake. Dry fruit consumption was supported by 17% of covid positive people at 35% of covid negative people. Coconut water consumption was supported by 9% and 18% of covid-19 positive and negative participants respectively. Ordered outside food from online services was only supported by 4% of the population.

Table 12: Showing the impact of the diet consumed.

Satisfied with your diet	Positive	Negative
Very dissatisfied	1%	2%
Dissatisfied	2%	2%
Neither dissatisfied nor satisfied	14%	8%
Satisfied	63%	17%
Very satisfied	20%	61%
Not at all	0%	10%

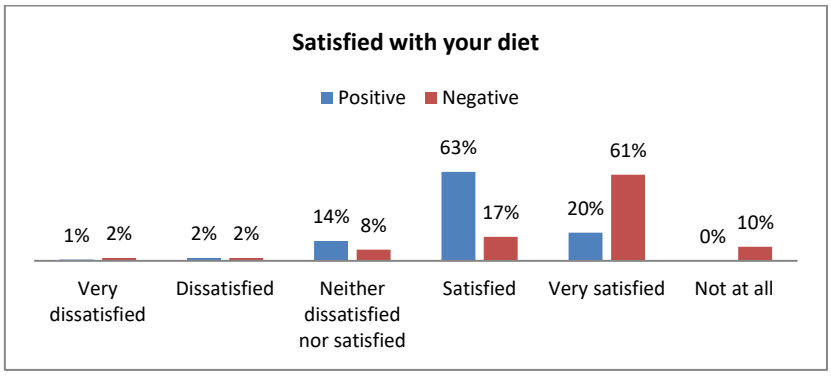

Fig 12: Showing the impact of the diet consumed.

63% of covid-19 positive participants reported they were satisfied by the nutrition and diet. Whereas 61% of negative people were very satisfied by the balanced diet.

Table 13: Showing the summary of the benefit with the medical treatment.

Medical substances	Positive	Negative
Not at all	1%	36%
A little	12%	23%
Moderate	43%	21%
Mostly	38%	17%
Completely	6%	3%

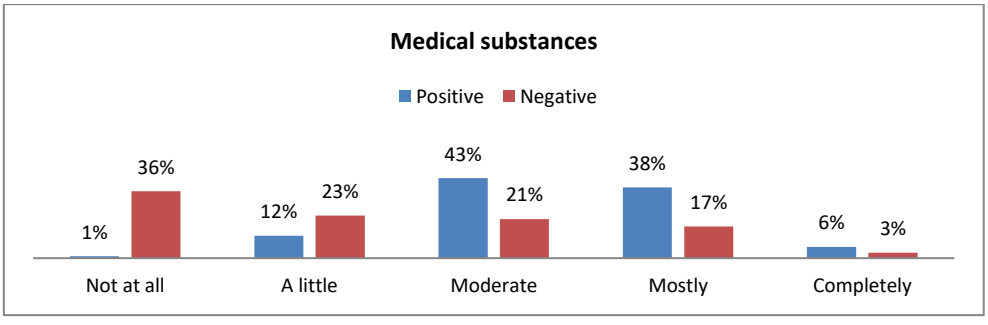

Fig 13: Showing the summary of the benefit with the medical treatment.

Therapy with medicines was supported only to a moderate extent of about 43% of covid positive people and 21% of covid negative people. 38% of covid-19 negative people and 17% of covid positive people have reported that medical substances were beneficial in most of the cases. 12% of covid positive people 23% of covid negative people have reported that they were only little satisfied by the therapeutic agents. 6% of covid positive people and 3% of covid negative people have reported they are completely satisfied with the medical substances. Where is 1% of covid positive people and 36% of negative people were not at all satisfied with the therapeutic treatment provided.

Table 14: Showing the impact of medical devices.

Satisfied with medical devices	Positive	Negative
Yes	69%	44%
No	3%	6%
A little	25%	23%
Not at all	0%	7%
Not used	3%	20%

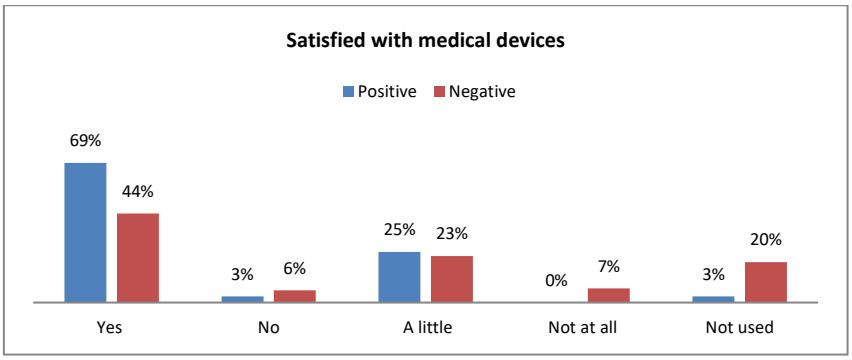

Fig 14: Showing the impact of medical devices.

Usage of medical devices was highly supported by both covid positive and negative people which was 69 % and 44% respectively. 3% of covid positive people 6% of negative people have reported they were not at all satisfied by the medical devices. Whereas usage of medical devices was supported to a little extent in both core positive and negative group of participants which was 25% and 23% respectively.

Table 15: Showing the summary of the medical devices used.

Medical devices used	Positive	Negative
Thermometer	12%	13%
Pulse oximeter	9%	47%
Gloves	29%	9%
Mask	43%	5%
All of the above	6%	17%
None of the above	1%	9%

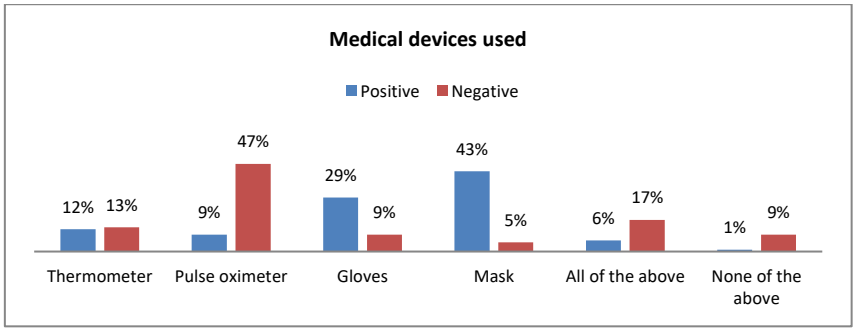

Fig 15: Showing the summary of the medical devices used.

The medical devices which were included in the questionnaire were thermometer, pulse oximeter, gloves and masks. Pulse oximeter was highly used medical device which was about 47 % of the population which was mostly covid negative participants who have used masks constituted to 43% of the devices used by covid positive people.

Table 16: Showing the impact of the social services during the pandemic.

Social services	Positive	Negative
Very dissatisfied	1%	3%
Dissatisfied	5%	13%
Neither dissatisfied nor satisfied	42%	30%
Satisfied	50%	50%
Very satisfied	2%	4%

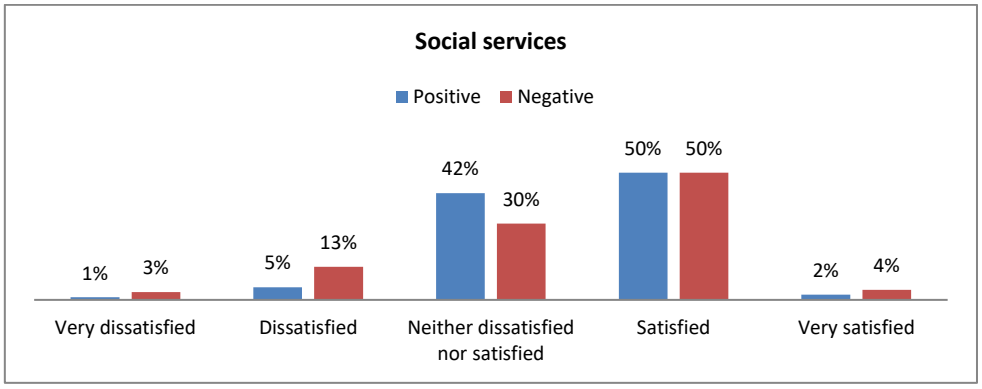

Fig 16: Showing the impact of the social services during the pandemic.

Social services have played a very active role to in the challenges of the pandemic which was supported by the participants of this study to be satisfactory to about 50% in both positive and negative people.

Table 17: Showing the impact of pandemic on the sleep quality.

Satisfied with your sleep	Positive	Negative
Very dissatisfied	2%	2%
Dissatisfied	17%	6%
Neither dissatisfied nor satisfied	38%	13%
Satisfied	34%	63%
Very satisfied	9%	16%

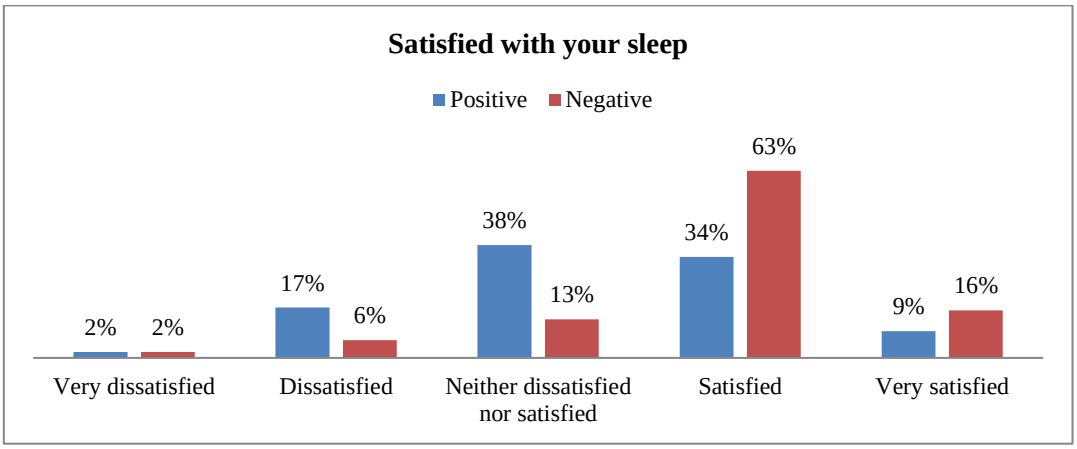

Fig: 17 Showing the impact of pandemic on the sleep quality.

Effect of covid-19 pandemic on sleep was assessed and found that 2% of both covid positive and negative people were very dissatisfied. 17% of covid positive people and 6% of covid-19 negative people have reported to have dissatisfied sleep. Neither satisfied not satisfied sleep was reported by 38% of over positive people and 13% of negative people. 35% of the covid positive patients have reported satisfied sleep during the infection has 63% of the negative people during the same pandemic time have reported to have satisfied sleep. Very satisfied sleep was reported by 9% of the covid positive participants and 16% of the covid negative people. Covid patients had less amount of sleep during the infection.

Table 18: Showing the summary of handling pain.

Handle pain or discomfort	Positive	Negative
Mild	29%	13%
Moderate	46%	19%
Severe	14%	2%
Not at all	11%	66%

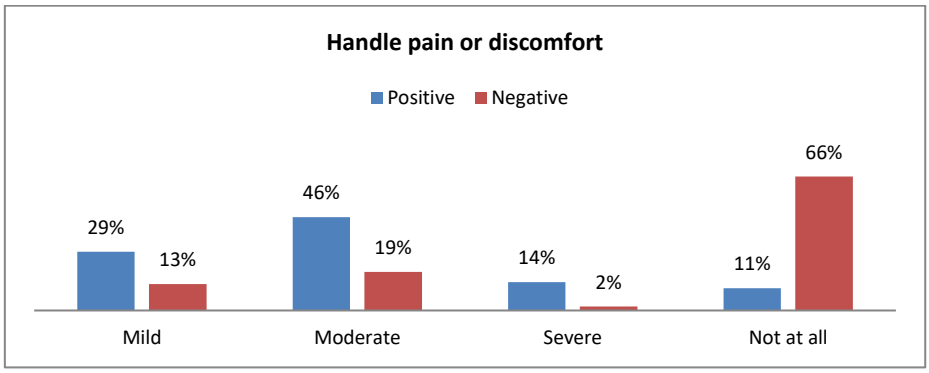

Fig 18: Showing the summary of handling pain.

Pain and discomfort were also included in the study where 29% of covid positive the people reported mild amount of pain and discomfort and 13% of the people who are covid negative also reported mild amounts of pain and discomfort. 46% of covid positive people and 19 % of negative people have reported moderate amounts of pain and discomfort. 14% of covid positive patients and 2% of covid-19 negative people have reported similar amounts of pain and discomfort. While 11% of covid positive people and 66% of covid-19 negative people have reported to not at all having pain or discomfort during this period. Covid patients were more in pain and had to handle discomfort during the pandemic.

Table 19: Showing the impact of the community and surroundings.

Satisfied with your community & surroundings	Positive	Negative
Not at all	3%	16%
A little	19%	17%
Moderate	35%	30%
Mostly	39%	29%
Completely	4%	8%

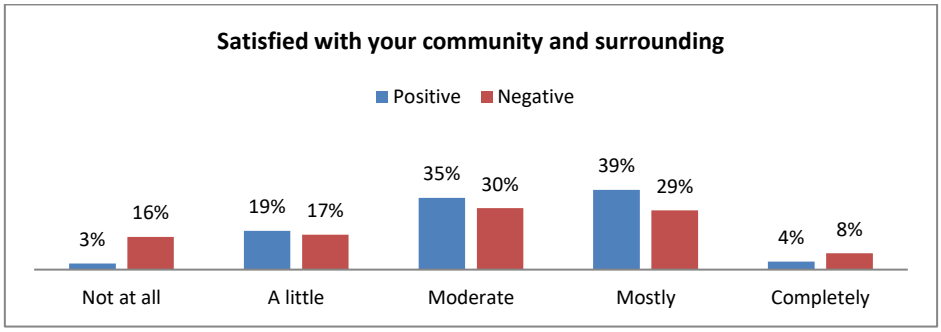

Fig 19: Showing the impact of the community & surroundings.

3% of the covid-19 negative people 16% of covid-19 people have reported to have not at all satisfied community and surroundings around them. 19 % of covid-19 people 17% of cognitive people have reported to have a little satisfied response towards the community and surroundings. 35% of covid positive of people 30% of covid-19 negative people have reported to be moderately satisfied by community and surroundings around them. 39% of the covid-19 positive people 29% of covid-19 negative people have reported their most is satisfied by the community and surroundings. Whereas 4% of covid-19 people 8% of negative people have reported they are completely satisfied by the community and surroundings around them.

Table 20: Showing the impact of the place of living and comfort.

Place you live was comfortable	Positive	Negative
Not at all	0%	6%
A little	3%	6%
Moderate	19%	22%
Mostly	49%	35%
Completely	29%	31%

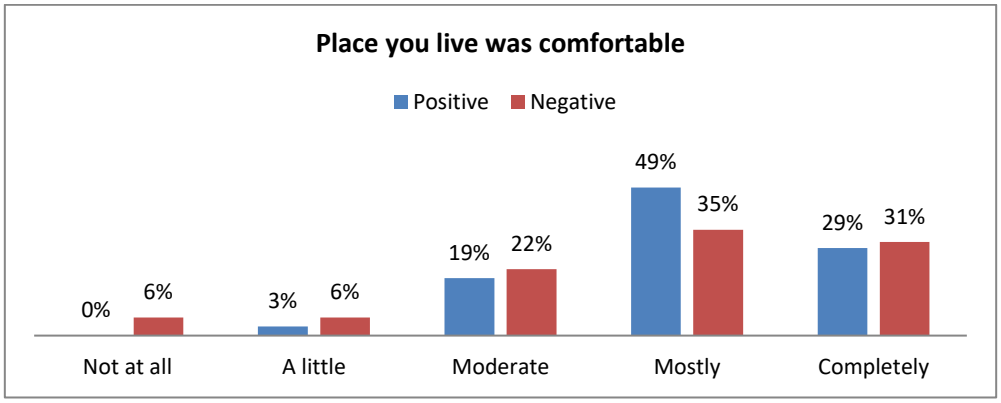

Fig 20: Showing the impact of the place of living and comfort.

Table 21: Showing the summary of the preventive measures taken.

Preventive measures	Positive	Negative
Yes	98%	93%
No	2%	7%

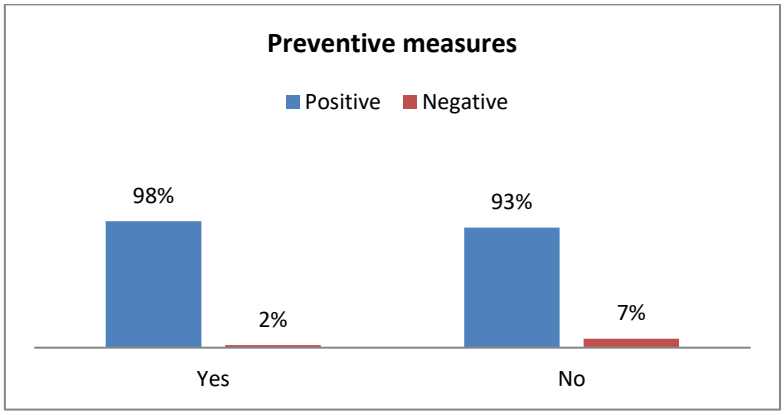

Fig 21: Showing the summary of the preventive measures taken.

Covid-19 being highly communicable the preventive measures were also assessed where 98% of covid-19 positive patients 93% of covid-19 negative people have reported to have taken preventive measures during this pandemic. While 2% of positive and 7% of negative group of people have reported that they have not taken any preventive measures.

Table 22: Showing the summary of the various treatments followed.

Preventive medications taken	Positive	Negative
Ayurvedic	10%	10%
Homeopathy	2%	5%
Allopathy	45%	17%
None of the above	48%	68%

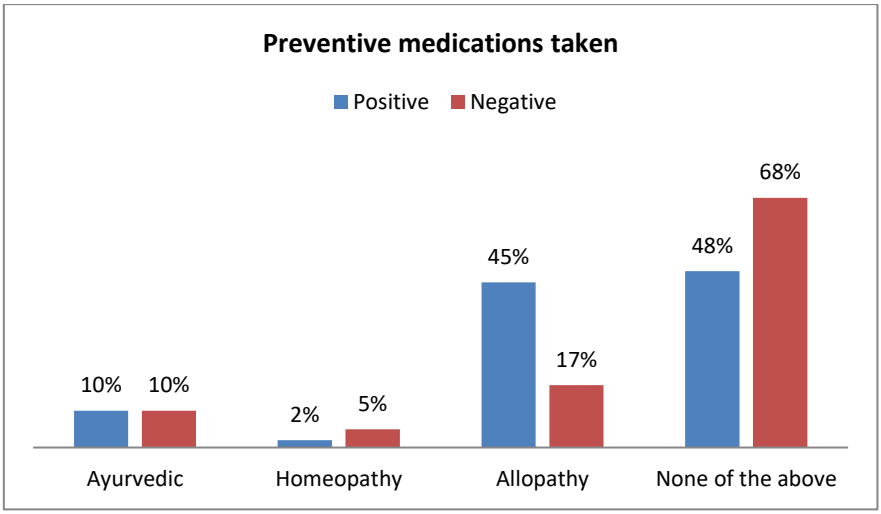

Fig 22: Showing the summary of the various treatments followed.

Preventive medicine during the pandemic where on high demand from ayurvedic, homeopathy and allopathic medicines the evaluation of the same was included in the study were 10% of covid-19 group and 10% of negative group have used preventive medication from ayurvedic method of treatment. 2% of covid positive patients 5% of covid-19 negative people have implemented homeopathy method of preventive medication. 45% of covid-19 people 17% of covid-19 negative people have implemented allopathic method of treatment for prevention of covid infection.

Table 23: Showing the summary of the treatment medication.

Drugs used for COVID	Positive	Negative
Paracetamol	17%	10%
Doxycyline	9%	2%
Azithromycin	10%	3%
Levocetrizine+Montelukast	12%	2%
Mefenamic acid	2%	0%
Vitamin C supplement	16%	10%
Chlorphenaramine maleate	4%	1%
Dextromethorphan hydrobromide	1%	0%
N-acetyl cysteine	2%	0%
Favipiravir	0%	0%
Hydroxy chloroquine	1%	1%
Vitamin D3 60K	9%	3%
Multivitamin	12%	7%
Ivermectin	2%	1%
Acebrophylline + acetyl cysteine	1%	0%
Dexamethasone	0%	2%
Remdesivir	0%	2%
None of the above	0%	56%

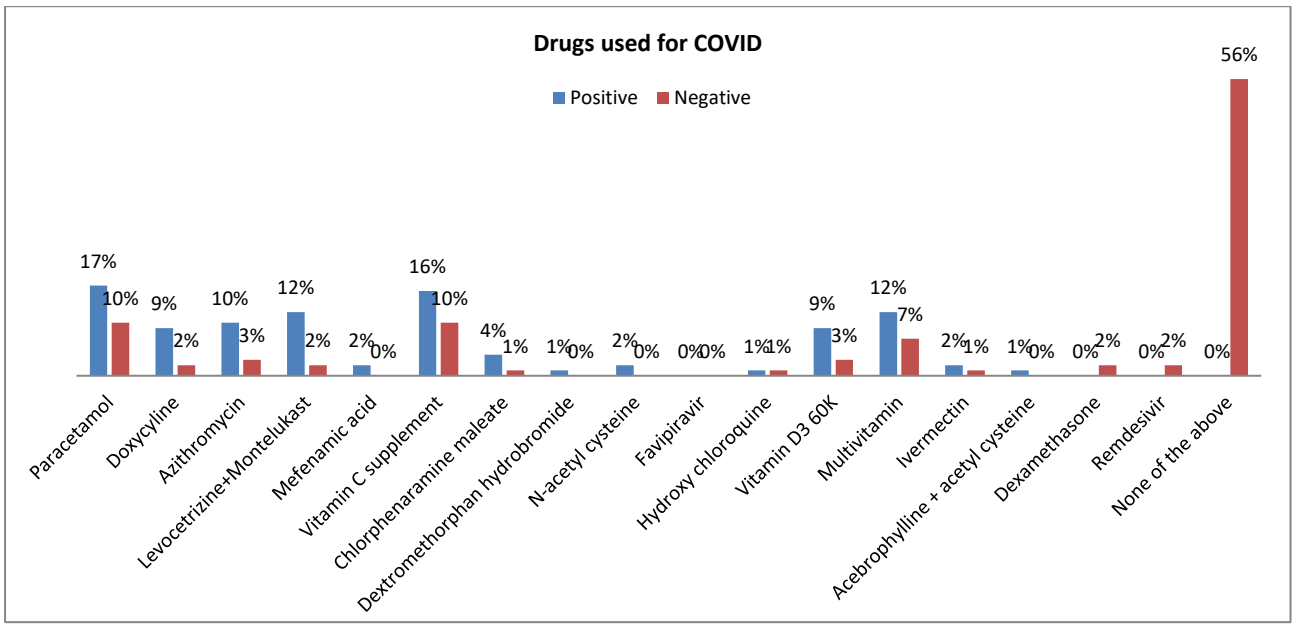

Fig 23: Showing the summary of the treatment medication.

Covid treatment included paracetamol, doxycycline, Azithromycin, levocetirizine +montelukast, mefenamic acid, vitamin C supplements, chlorpheniramine maleate, dextromethorphan hydrobromide, N-acetylcysteine, favipiravir, hydroxychloroquine, vitamin d3 60k, multivitamin, ivermectin, acebrophylline along with acetylcysteine, dexamethasone, remdesivir. The above-mentioned drugs were used at various percentage as why paracetamol was highly used during infection followed by vitamin c, levocetirizine and montelukast combination and Azithromycin along with multivitamin for highly use group of medication during the dynamic infection in covid positive people.

Pharmacoeconomics

Table 24: Showing the modes of the payment of treatment.

Method used to pay	Positive	Negative
Insurance	0%	2%
Self-paid	80%	11%
None of the above	20%	87%

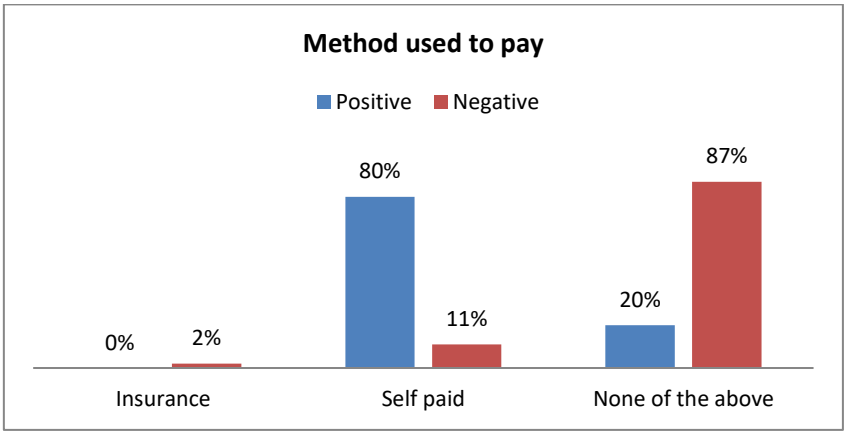

Fig 24: Showing the modes of the payment of treatment.

As covid-19 infection was not included in the health insurance is policies and till 2021 majority of the finances for the treatment of self-paid finances which contributed to 80% of covid positive people and 11% of the negative people.

Table 25: Showing the summary of the Covid treatment.

Earn annually	Positive	Negative
More than 3 lakhs	19%	9%
More than 4 lakhs	0%	3%
More than 5 lakhs	1%	4%
More than 6 lakhs	0%	1%
More than 7 lakhs	3%	3%
None of the above	38%	71%
Below 3 lakhs	38%	9%

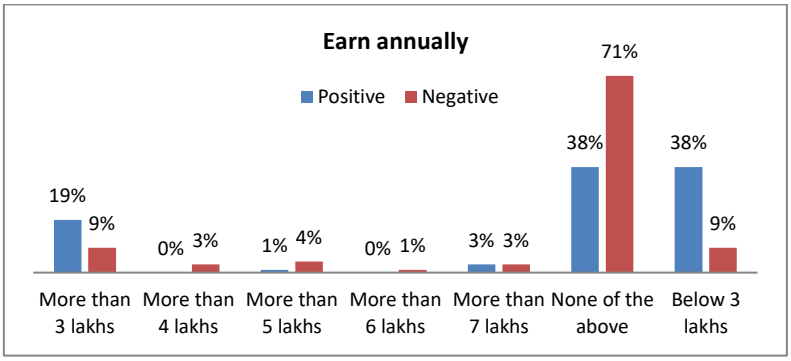

Fig 25: Showing the summary of the Covid treatment.

Pharmacoeconomic perspective of the study showed positive group in various financial brackets of earning.

Table 26: Showing the summary of the diagnosis cost.

Diagnostic test cost	Positive	Negative
1000 to 2000Rs	60%	7%
2000 to 4000Rs	4%	7%
4000 to 5000Rs	1%	1%
More than 5000Rs	3%	1%
None of the above	33%	84%

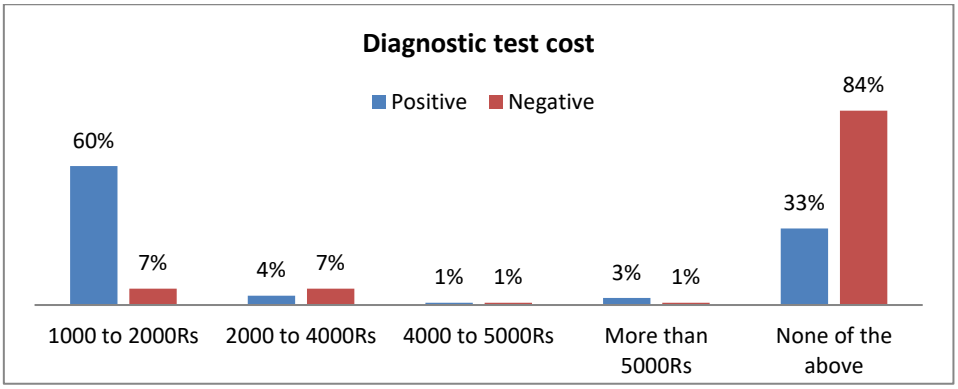

Fig 26: Showing the summary of the diagnosis cost.

Diagnostic expenses ranging from 1000 to 2000 rupees were reported by 60% of the covid positive group

Table 27: Showing the summary of the devices cost.

Medical devices cost	Positive	Negative
300 to 700Rs	51%	24%
700 to 1000Rs	19%	3%
1000 to 2000Rs	9%	8%
2000 to 3000Rs	5%	5%
Above 3000Rs	5%	2%
None of the above	12%	58%

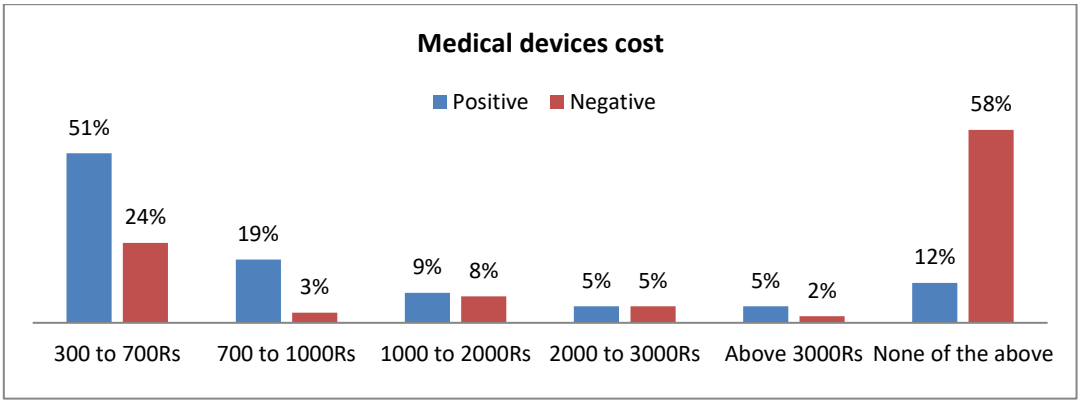

Fig 27: Showing the summary of the devices cost.

300-700 rupees were invested by 51% of covid positive group and 24% in covid negative group of the participants. Whereas 19% of covid positive group and 3% of negative group have spent 700-1000 rupees on the medical devices.

Table 28: Showing the summary of the treatment cost other than pandemic duration.

Past medications cost	Positive	Negative
Below 1000Rs	7%	10%
1000 to 2000Rs	6%	3%
2000 to 5000Rs	1%	2%
More than 5000Rs	3%	3%
None of the above	83%	82%

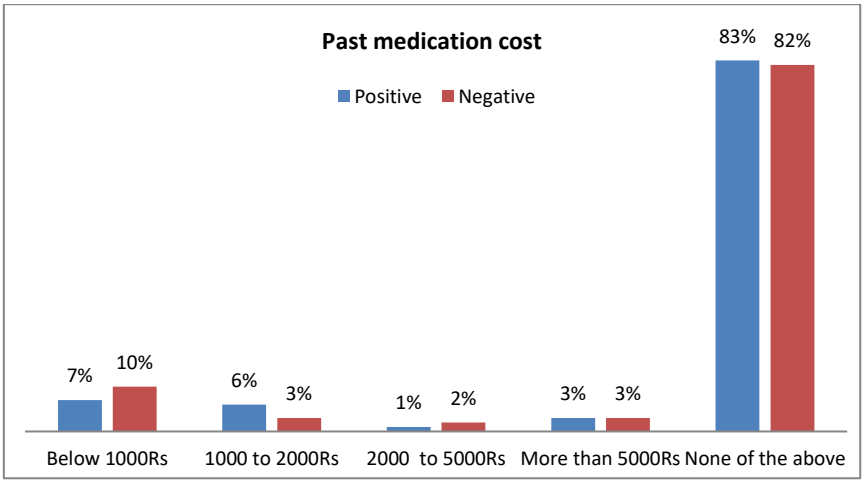

Fig 28: Showing the summary of the treatment cost other than pandemic duration.

Past medication expenses of covid positive people ranging from 1 to 7% whereas the past medication range from to 10% in covid negative group of participants.

Table 29: Showing the summary of the medications cost covid treatment.

COVID Medications cost	Positive	Negative
2000 to 5000Rs	61%	5%
5000 to 10000Rs	8%	1%
10000 to 50000Rs	2%	1%
50000 to 1 lakh	0%	1%
More than 1 lakh	0%	3%
None of the above	29%	89%

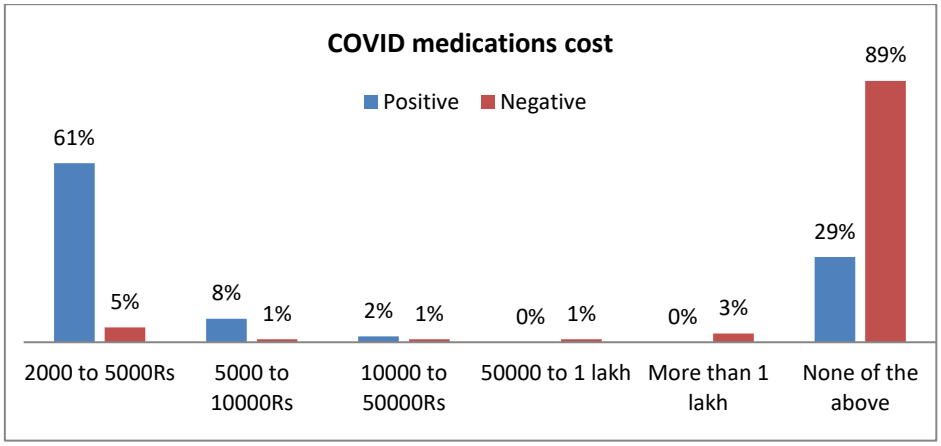

Fig 29: Showing the summary of the medications cost covid treatment.

When compared past medication expenditure to covid medicine ranging from 2000 to 5000 rupees was spent by 61 % of covid positive population whereas 5% of covid negative group people spent on covid medication.

Table 30: Showing the treatment and hospitalization cost.

Treatment/Hospitalization cost	Positive	Negative
50000 to 1lakh	10%	1%
1lakh to 3lakhs	3%	2%
3lakhs to 5lakhs	1%	1%
More than 5 lakhs	1%	2%
None of the above	57%	91%
Below 50000	28%	3%

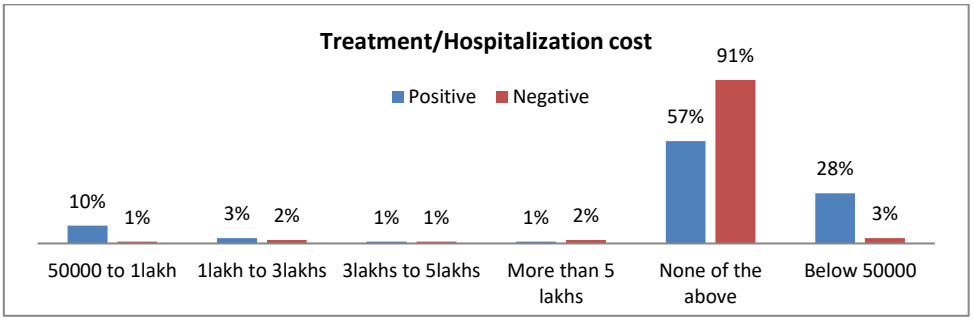

Fig 30: Showing the treatment and hospitalization cost.

Overall treatment during covid pandemic was reported to be below 50000 rupees by 28% of covid-19 and 3% of covid-19 negative population whereas 10% of covid positive group and 1% of covid-19 negative group reported treatment and hospitalization cost of about 50000 to 100000 rupees during the pandemic time. Treatment and hospitalization cost ranging from 1 lakh to three lacs was reported by covid positive group and 2% of covid-19 negative group during the pandemic. 300000 to 500000 range of treatment and hospitalization cost was reported by 1% of covid-19and 1 % of covid negative patients.

Table 31: Showing the summary of the cost of food.

Cost of food	Positive	Negative
5000 to 10000Rs	64%	15%
10000 to 20000Rs	6%	2%
20000 to 30000Rs	1%	2%
Above 30000Rs	0%	2%
None of the above	29%	79%

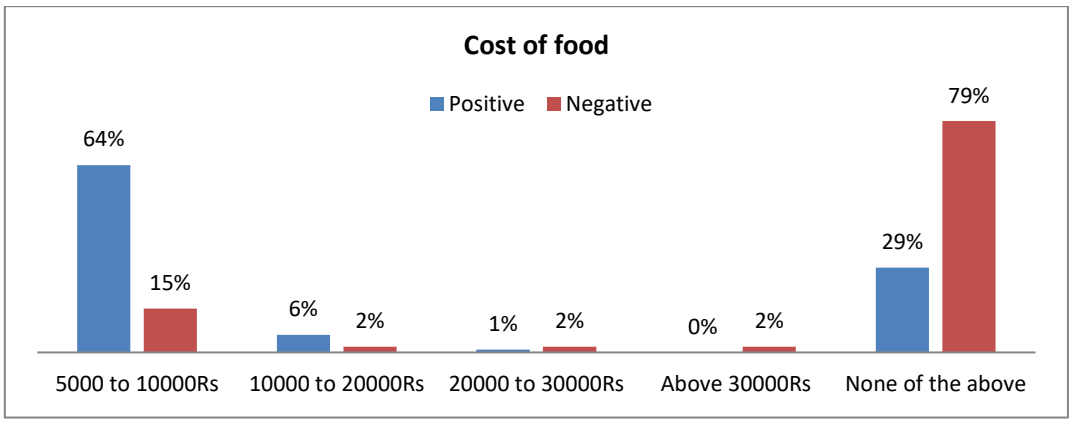

Fig 31: Showing the summary of the cost of food.

As nutrition and diet played a significant role during the pandemic the cost of the food was also included in the study. 5000 to 10000 rupees per month was reported by 64% of the covid positive group and 15% of the covid negative group of people. 10 to 20 thousand rupees per month expenditure was reported on food by 6% of covid positive population and 2% of covid negative population. Food expenses ranging from 20000 to 30000 was reported by 1% of covid positive population and 2% of covid negative population.

Table 32: Showing the summary total recovery cost.

Total recovery cost	Positive	Negative
50000 to 70000Rs	19%	1%
70000 to 1lakh	1%	1%
1lakh to 2 lakhs	1%	1%
3lakhs to 4 lakhs	1%	3%
More than 4 lakhs	1%	1%
None of the above	42%	91%
Below 50000	35%	2%

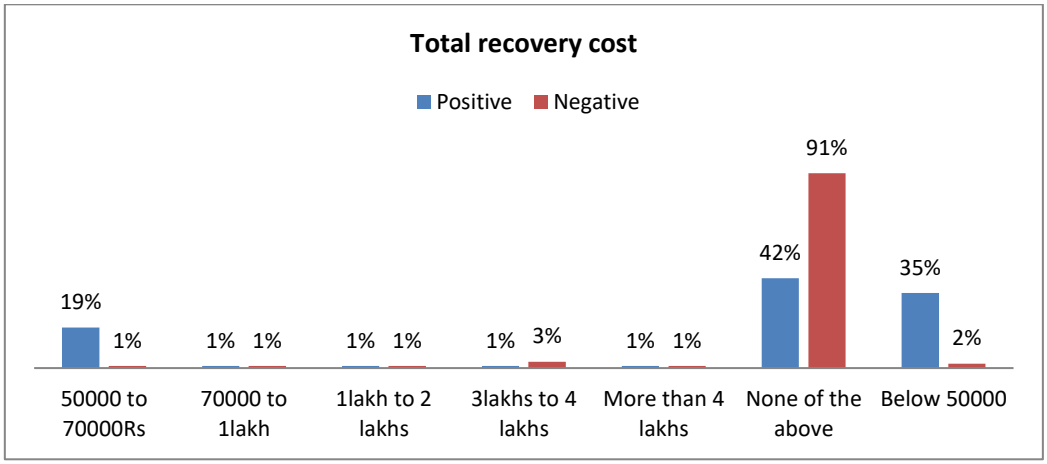

Fig 32: Showing the summary total recovery cost.

Total recovery cost ranging from below 50000 expenditure was reported by 35% of covid-19 population and 2% of negative population. Whereas 50000 to 70000 rupees was reported by 19 % of the covid positive population and 1% of covid-19 negative population. Total treatment cost from 70000 to 1 lakh was reported by 1% of the population, 1 lakh to 2 lakh range was reported by 1% of the covid positive and negative population, 3 lakhs to 4 lakh range of total expenses were reported by 1% covid positive population. While more than 400000 rupees of total expenditure was reported by 1% of covid positive population.

Table 33: Showing the status of negative result after treatment.

Results have come negatively in days	Positive	Negative
4-7 days	7%	1%
7-12 days	24%	0%
12-14 days	38%	2%
14-18 days	19%	5%
18-21 days	7%	0%
21-28 days	1%	0%
More than 28 days	1%	1%
Below 50000	3%	91%

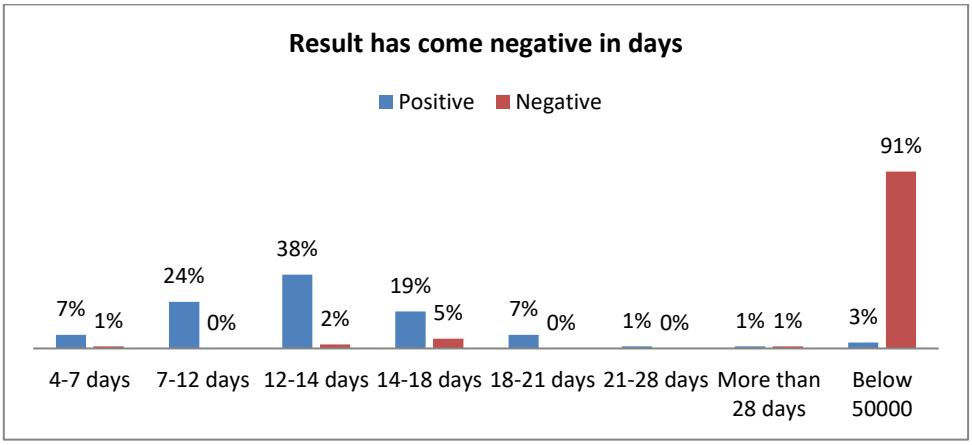

Fig 33: Showing the status of negative result after treatment.

Post covid infection RT-PCR negative results were highly recommended by the doctor's people who have undergone treatment have reported to have been tested negative after the infection. 7% of covid shown RT PCR negative between 4 to 7 days, 24% of covid positive participants have shown RT PCR negative reports between 7 to 12 days, 38% of covid-19 positive participants showed to have acquired RT PCR negative result between 12 to 14 days, while 19% of covid positive population have reported to have acquired RT-PCR negative result between 14 to 18 days, 7% of covid positive population reported to be tested negative during 18 to 21 days, one percent of the population have tested negative between 21 to 28 days finally one percent of covid positive population have reported negative after more than 28 days.

Table 34: Showing the status of antibody testing.

Antibody testing	Positive	Negative
Yes	5%	0%
No	95%	100%

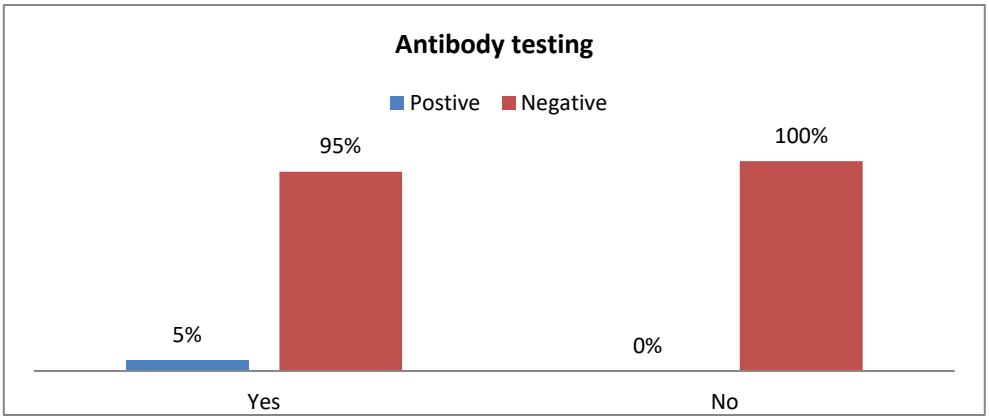

Fig 34: Showing the status of antibody testing.

After the infection only 5% of covid-19 population have got antibody testing conducted after the recovery.

CONCLUSION:

- During the study period it was observed that covid infected subjects experienced lot of challenges in their treatment period which helps us in doing this study.
- In our study it was found that male affected more than women usually young adults are having BMI ranges 18.5 -24.9 kg/m^2 in that if was observed that majority are symptomatic who are home quarantine for 2 -3 weeks with recovery rate 80 %.
- Covid positive people were in more stress when compared covid negative group.
- Overall, the covid positive people have faced more financial difficulties when compared to covid negative population.
- The support of family asnd friends was found to be crucial during the pandemic.
- Ambulance facility for transportation was not satisfactory during the pandemic.
- Work & daily life of covid positive people was more affected when compared to covid negative group.
- Home remedies were highly followed during the pandemic time were beneficial.
- The covid positive people were more stressed and depressed group of people than the covid negative group.
- The intake, impact and awareness of the diet were highly significant during the pandemic.
- Medical treatment and devices helped covid positive people to recover.
- Social services have played a very active role in the challenges of the pandemic.
- Patients with Covid experienced a reduction in sleep duration during the infection.
- Covid patients were in more pain and had to handle discomfort during the pandemic.
- Covid patients were more financially burdened than covid negative patients.

ACKNOWLEDGEMENT:

The authors are thankful to Dr. V. Asha Jyothi (Associate professor, Dept. pharmacology, St. Pauls college of pharmacy) for continuous encouragement in accomplishing this work.

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