

Awareness About Gastrointestinal Symptoms In Covid-19 Among Patients - A Questionnaire Based Survey

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ABSTRACT

INTRODUCTION

On March 11,2020 coronavirus disease was declared a global pandemic by the World Health Organization (WHO). Gastrointestinal symptoms are common in COVID-19 patients. Although respiratory tract symptoms are more severe and most commonly seen in patients some also have gastrointestinal tract affected by COVID-19.

AIM

The aim of the study was to assess the awareness about gastrointestinal symptoms in COVID-19 among patients.

MATERIALS AND METHODS

A survey was conducted across the patients treated in one of the private hospitals with symptoms similar to COVID-19. For which 108 responses were received and recorded. The complete analysis was done using SPSS Software version 2.

RESULT

Based on the 108 responses from both the genders it was seen that females had high awareness about gastrointestinal symptoms in COVID-19 when compared to males. They are also aware about the seriousness of COVID-19 and are stepping forward to treat the disease. According to the study, people were aware about the common symptoms that are around the surrounding population.

CONCLUSION

It was concluded that subjects have moderate awareness about gastrointestinal symptoms of COVID-19. Some awareness meetings can be conducted virtually to improve the awareness about the symptoms of COVID-19 in all aspects.

KEYWORDS gastrointestinal symptoms, respiratory tract, patients, gender, innovative technique, surrounding population

INTRODUCTION

On March 11, 2020 coronavirus disease was declared a global pandemic by the World Health Organization (WHO)(1). As we know the disease originated from Wuhan, China. Within a small period of time it spread to almost all the countries in the world with the impact of many people spanning health, economics, human behaviour and state of mental well being. As the number of death cases increased rapidly evidence regarding people's psychological reaction towards the global public health crisis.

The global public health crisis has become more important since it provides insight which helps policy-makers and practitioners to make an improvement in their health communication, to provide preventive behaviours and also to provide social and emotional support to people who need it. The widespread fear and high risk perception brings behaviour change in response to the threat apart from the mental stress such as anxiety. In the last few months the global population faced problems that impact both world health and global socioeconomics(2).

The economical disadvantages are connected with pre-existing health conditions such as diabetes, chronic heart and lung disease which makes the population get exposed to greater risk of death. Most of the population live under poverty and under unimproved sanitation conditions before the impact of COVID-19 but after the pandemic people started sanitising themselves often and make sure they are hygiene in all aspects.

Telecommunicating, restriction for social gatherings, social vaccination, wearing mask as much as possible whenever we move out and implementing social distancing are some of the steps taken to control COVID-19 disease. SARS-Cov-2 is transmitted through large respiratory droplets(2,3) and they are also caused by air borne routes(4). Compared to other virus this SARS-Cov-2 affects people with no symptoms or with little symptoms that can also lead to death(1). Cardiovascular system and respiratory system are not alone affected by coronavirus disease they also affect gastrointestinal system and nervous system(1,5).

Persons affected by coronavirus, at initial stage they are subjected to intestinal complications like vomiting and diarrhea(1). The gastrointestinal symptoms commonly associated with COVID-19 disease are diarrhea, nausea or vomiting and abdominal pain. Our team has extensive knowledge and research experience that has translated into high quality publications (6),(7),(8),(9),(10),(11),(12),(13),(14),(15),(16),(17),(18),(19),(20),(21),(22),(23),(24),(25). The aim of

the study was to analyse the awareness about gastrointestinal symptoms in COVID-19 among patients.

MATERIALS AND METHODS

A survey was conducted using Google forms-a cross sectional study(questionnaire based). A questionnaire was developed and circulated among patients who visited a private hospital. The sample size was 108 subjects. A list of 10 questionnaires was created to assess the awareness of the gastrointestinal symptoms in COVID-19 among patients. Complete survey was done using SPSS Software. All those who were willing to participate were included in the study. Incomplete submissions were excluded from the study.

Statistical analysis was done and the results were obtained in the form of pie charts, bar graphs and association was done using chi-square. ($p < 0.05$ was considered significant). The statistical software used is SPSS version 2.

Questionnaire are as follow:

1. How many days have you been experiencing fever?
2. Are you aware that abdominal pain is one of the gastrointestinal symptoms of COVID-19?
3. Are you aware that COVID-19 patients suffer from diarrhea?
4. Are you aware that COVID-19 patients experience vomiting sensation and nausea?
5. COVID-19 patients have loss of appetite during this condition, Are you aware about it?
6. Do you think COVID-19 patients feel tired and restless?
7. Are you aware that loss of taste is one of the symptoms of COVID-19?
8. Are you aware that COVID-19 patients suffer from gastric ulcers?
9. Are you aware that COVID-19 patients get regurgitating during the condition?

RESULT

In this study, 108 patients were asked to answer the questionnaire, the data was analysed and tabulated along charts for each question. Among the total population 51.85% suffer from fever for 1 day, 31.48% suffer from fever for 2-4 days and 16.67% suffer from fever for 4-6 days. Among the total population 51.85% is aware about the abdominal pain as one of the gastrointestinal symptoms and 48.15% were not aware about it. The patients involved in the survey 51.87% were aware of abdominal pain as one of the gastrointestinal symptoms of COVID-19 and 48.15% were not aware about it (Figure 3). 50.93% were aware of experiencing vomiting sensation and nausea as a symptom of COVID-19 and 49.07% were

not aware about it(Figure 4). 65.74% were aware that COVID-19 patients felt tired and restless and 34.26% were not aware about it(Figure 6)

Among the patients taken for the survey 65.74% were aware that the main symptoms of COVID-19 is loss of taste and only 34.26% were not aware about it(Figure 7). Gastric ulcers are not said to be a symptom of COVID-19 even the patients say and they are aware about it 50.93% were known gastric ulcers is not a symptom of COVID-19 and 49.07% were not aware about it(Figure 8) 49.07% were known that regurgitating is not a symptom of COVID-19 and 50.93% were known that it is not a symptom of COVID-19 in gastrointestinal symptoms. Correlation was done between gender and questions using chi square test ($p < 0.05$ was considered significant) as depicted in (Figure 9-13).

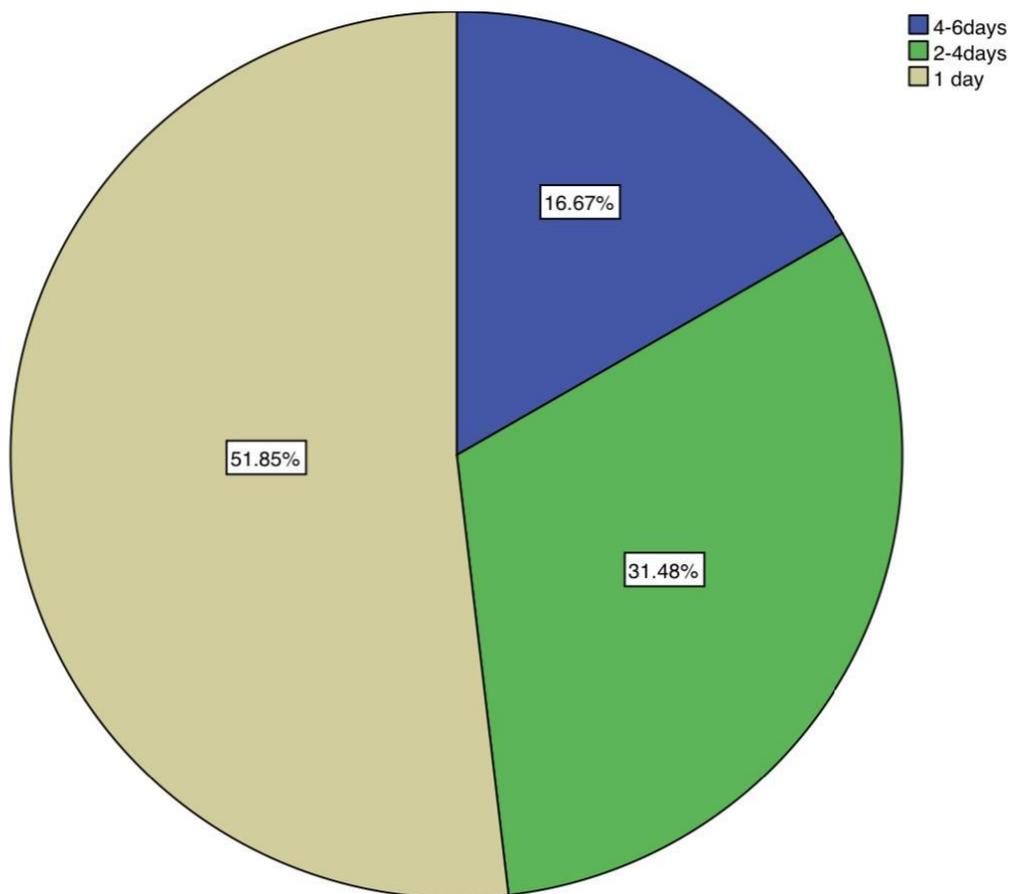


Figure 1: The above pie chart shows the response of the number of people experiencing fever. Beige colour represents patients experiencing fever for 1 day (51.85%), green colour represents patients experiencing fever for 2-4 days (31.48%) and blue colour represents patients experiencing fever for 4-6 days (16.67%). Majority of the subjects experience fever for 1 day.

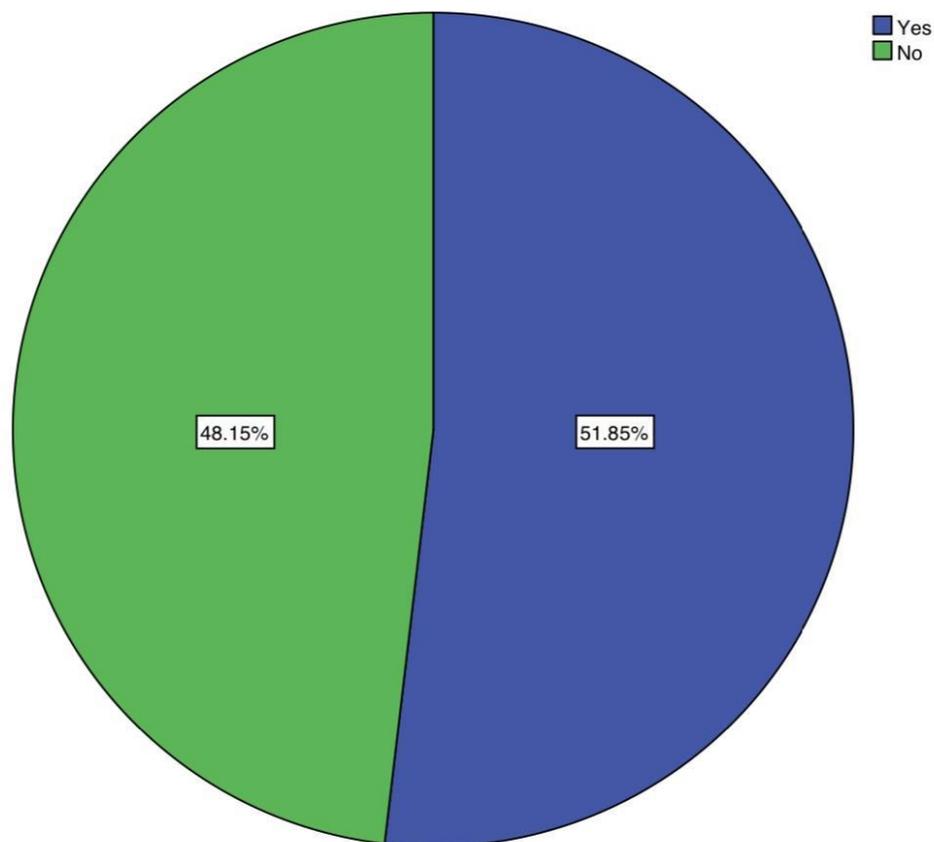


Figure 2: Shows the response of a number of patients aware of abdominal pain as gastrointestinal symptoms. Blue colour represents yes (51.85%) and green colour represents no (48.15%). Majority of the subjects were aware of the abdominal pain as gastrointestinal symptoms of COVID-19.

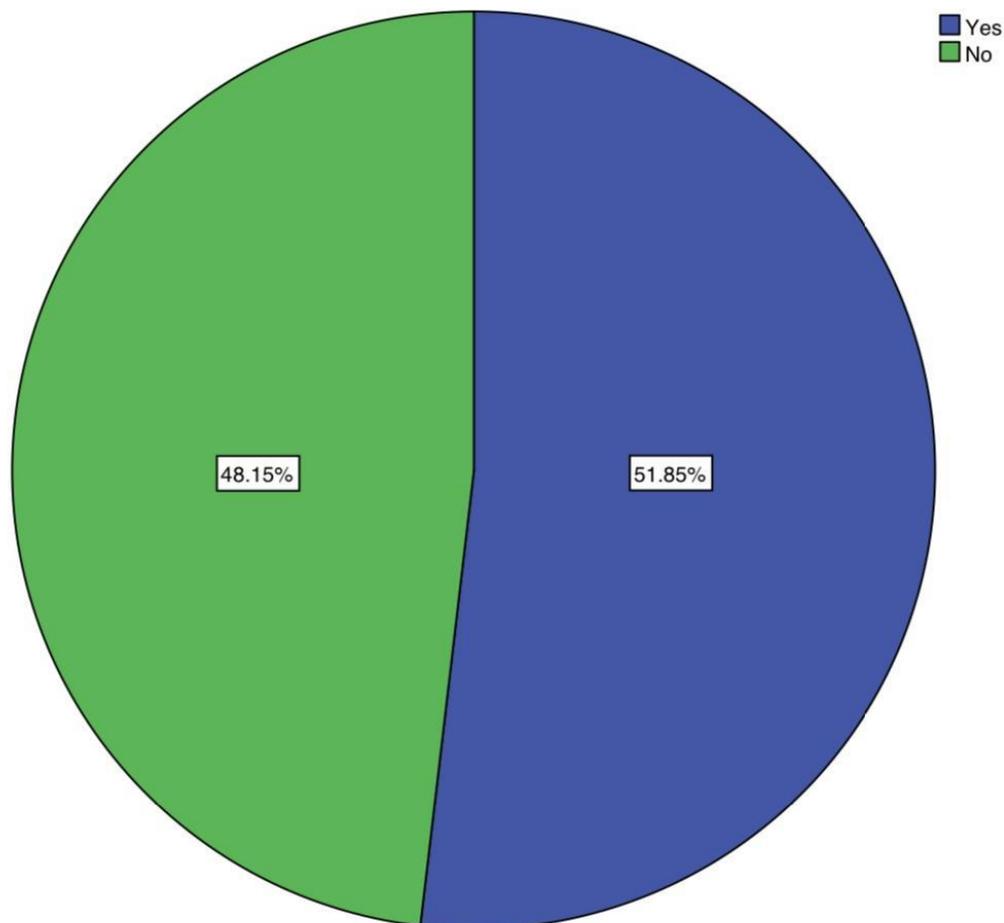


Figure 3: Shows the response of a number of patients aware that COVID-19 patients suffer from diarrhea. Blue colour represents yes (51.85%) and green colour represents no (48.15%). Majority the subjects were aware of the diarrhea as gastrointestinal symptoms of COVID-19.

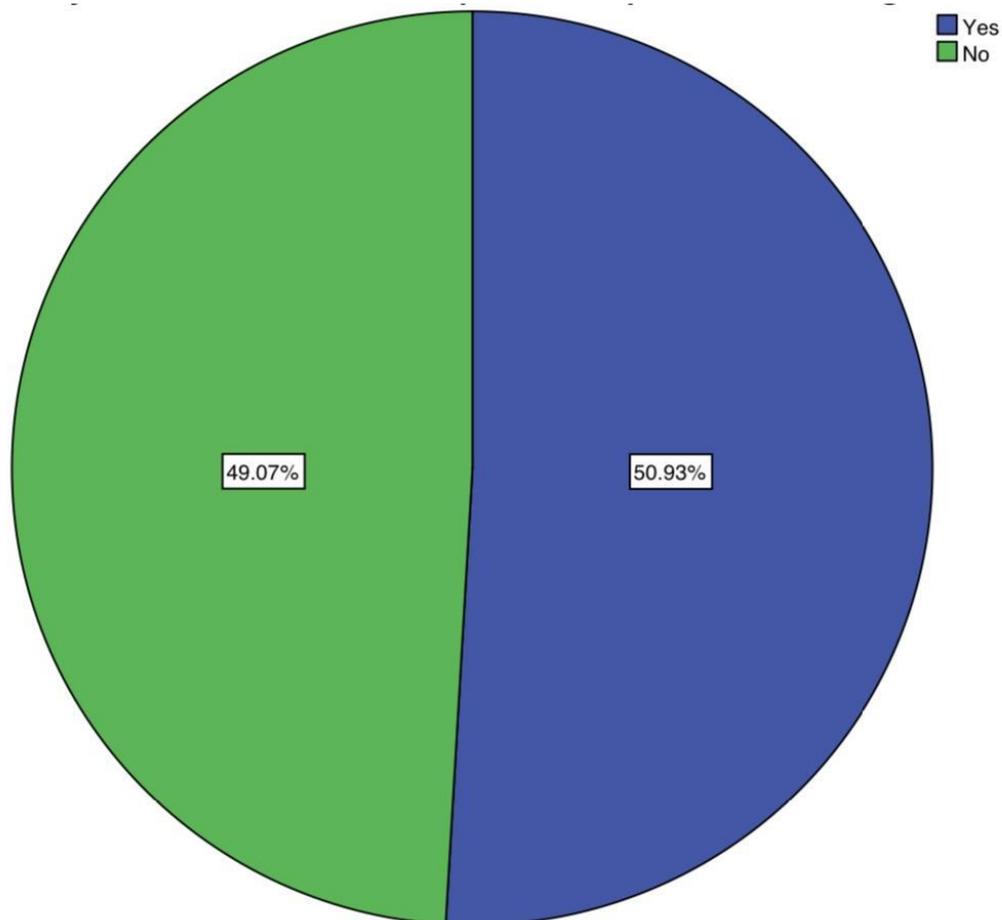


Figure 4: Shows the response of the number of patients aware that COVID-19 patients experience vomiting sensation and nausea. Blue colour represents yes (50.93%) and green colour represents no (49.07%). Majority of the subjects were aware of the vomiting sensation and nausea as gastrointestinal symptoms of COVID-19.

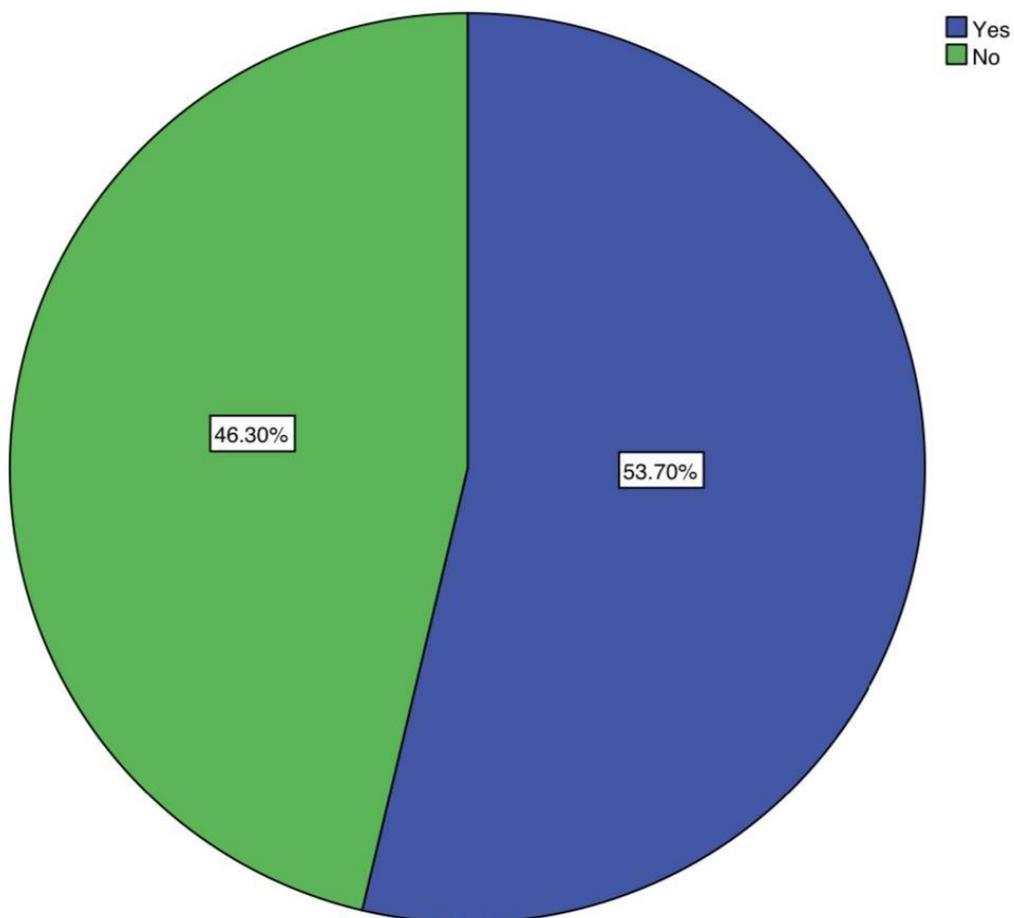


Figure 5: Shows the response of the number of patients aware that COVID-19 patients have loss of appetite during disease. Blue colour represents yes (53.70%) and green colour represents no(46.30%). Majority of the subjects were aware of loss of appetite as gastrointestinal symptoms of COVID-19.

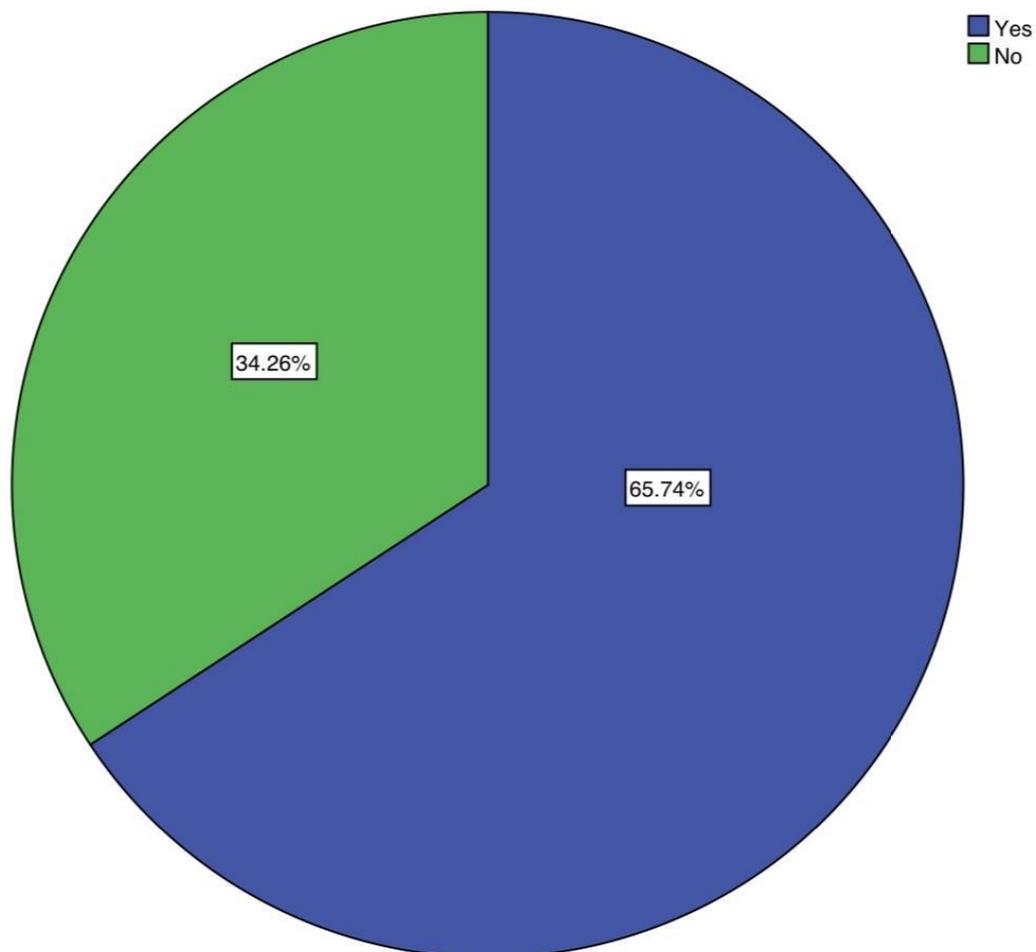


Figure 6: Shows the response of the number of patients who think COVID-19 patients feel tired and restless. Blue colour represents yes (63.74%) and green colour represents no (34.26%). Majority of the subjects were aware that tiredness and restlessness were gastrointestinal symptoms of COVID-19.

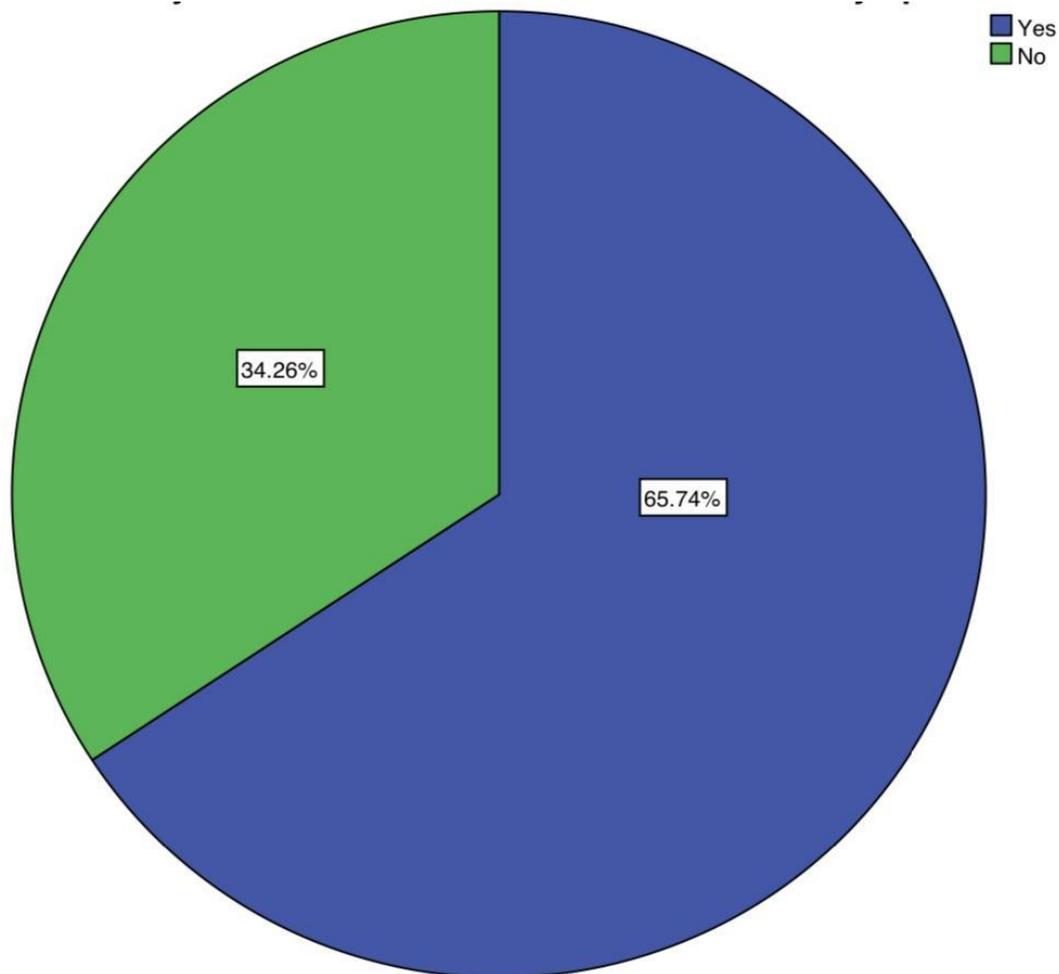


Figure 7: Shows the response of a number of patients aware that loss of taste is one of the symptoms of COVID-19. Blue colour represents yes (65.74%) and green colour represents no (34.26%). Majority of the subjects were aware that loss of taste was gastrointestinal symptoms of COVID-19.

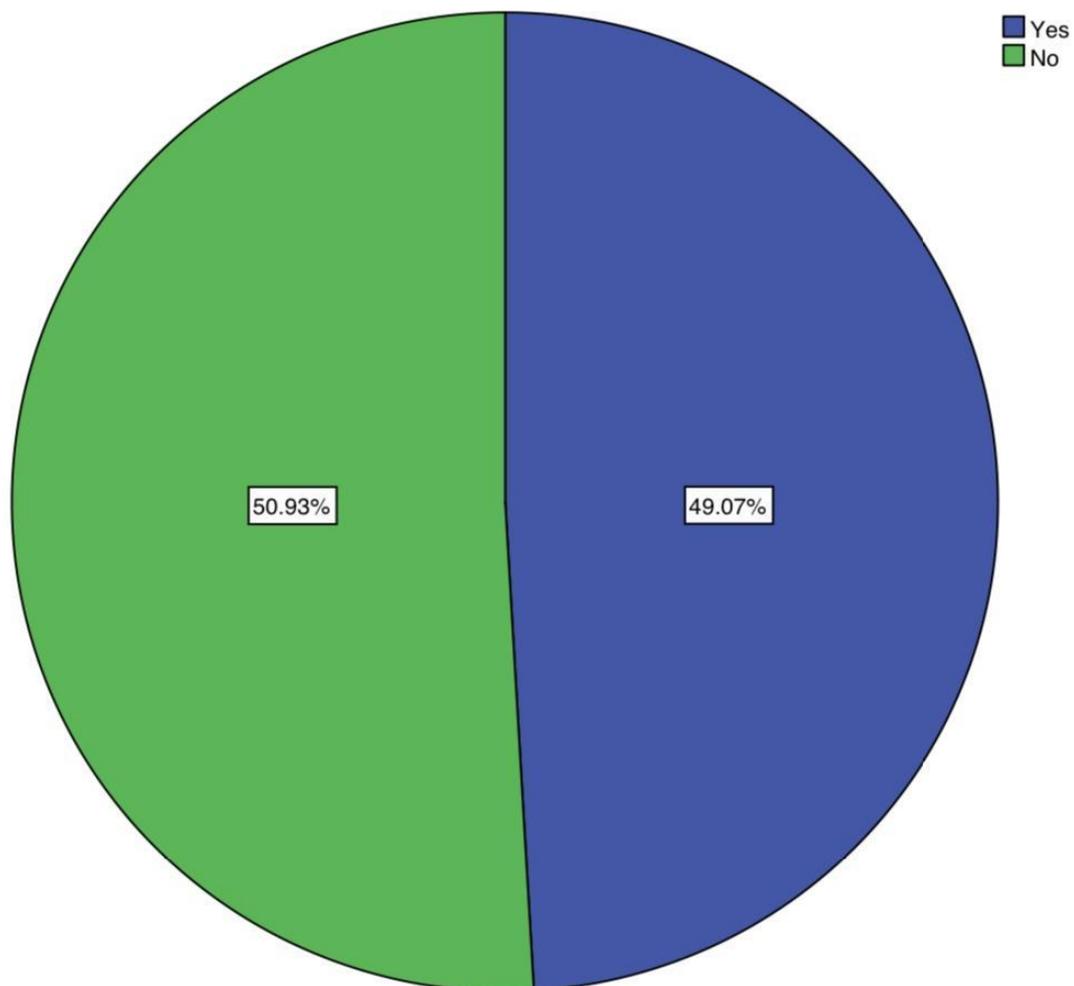


Figure 8: Shows the response of patients aware that COVID-19 patients suffer from gastric ulcer. Blue colour represents yes (49.07%) and green colour represents no (50.93%). Majority of the subjects were not aware of the gastric ulcer as gastrointestinal symptoms of COVID-19.

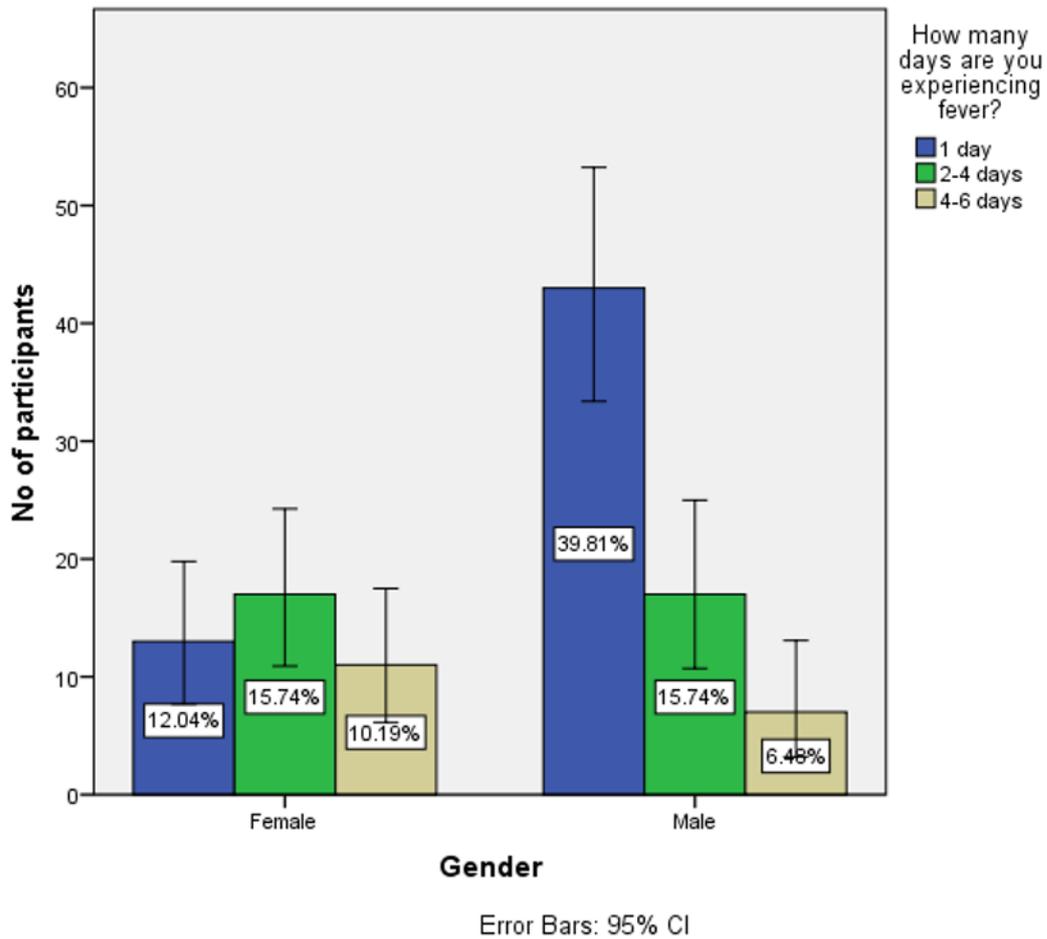


Figure 9: The bar graph represents the association between gender and number of days the subjects were experiencing fever. The X axis represents the gender and the Y axis represents the percentage of subjects experiencing fever for a particular number of days. Beige denotes 4-6 days, green denotes 2-4 days and blue denotes 1 day. Mostly fever was experienced by the subjects for 1 day by males. Pearson chi square test shows p value is 0.003,(p value < 0.05)Hence,it is statistically significant.

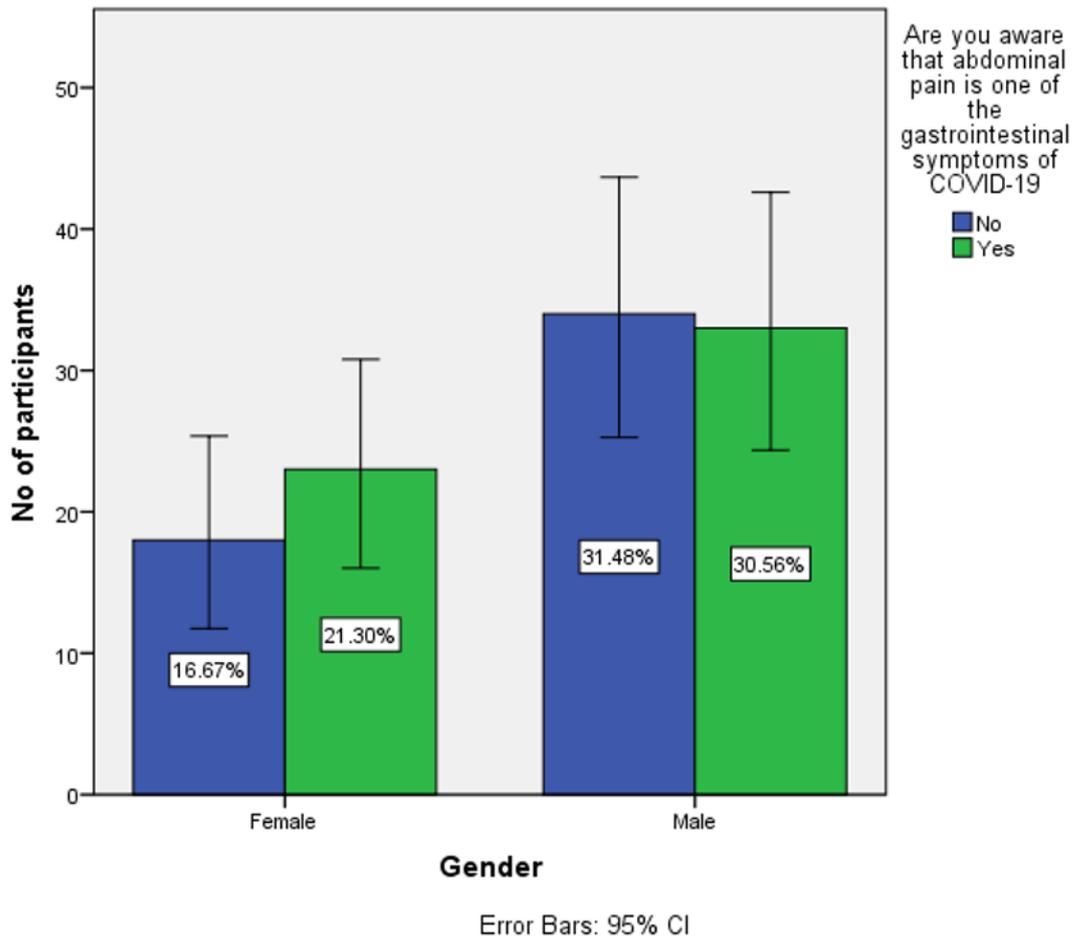


Figure 10: The bar graph represents the association between gender and the number of patients aware of abdominal pain that were gastrointestinal symptoms of COVID-19. The X axis represents the gender and Y axis represents the percentage of respondents aware that abdominal pain is one of the gastrointestinal symptoms of COVID-19. Green denotes yes and blue denotes no. The males were highly aware about the abdominal pain as gastrointestinal symptoms of COVID-19. Pearson chi square test shows p value is 0.490,(p value > 0.05)Hence,it is statistically not significant.

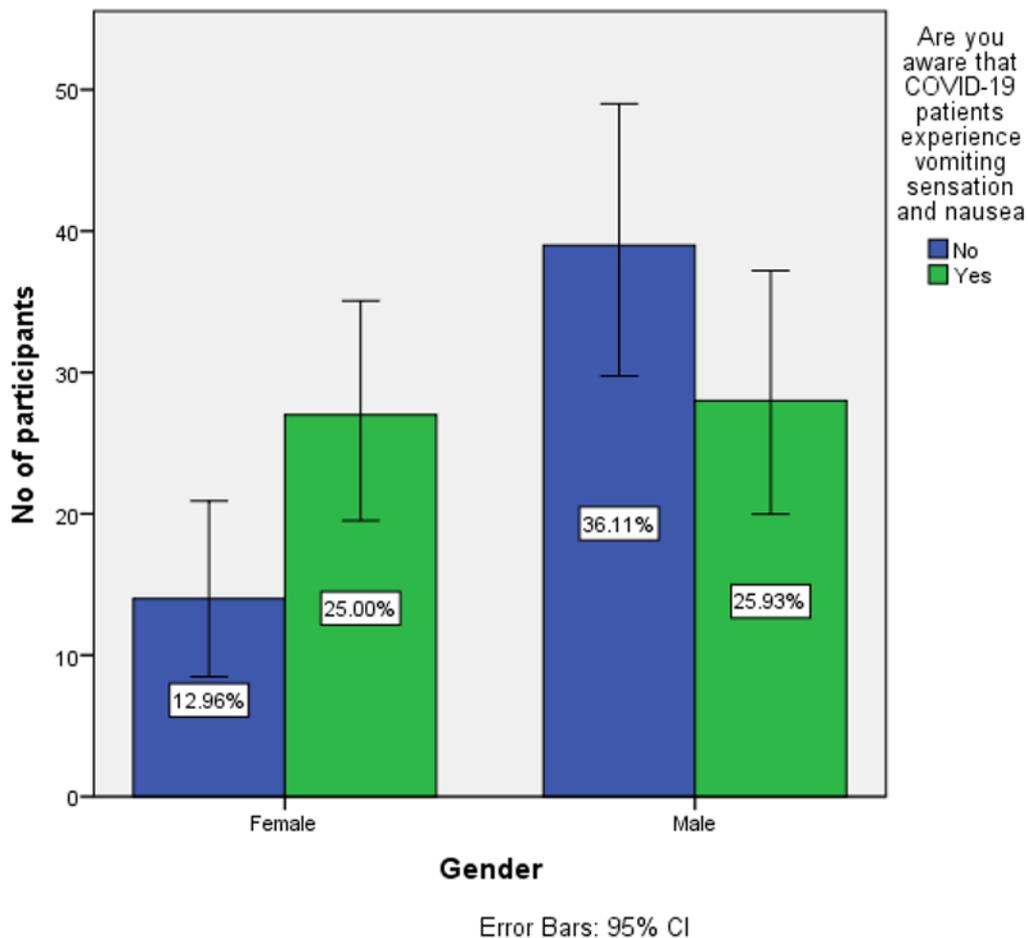


Figure 11: The bar graph represents the association between gender and awareness on vomiting sensation and nausea in COVID-19 patients. The X axis represents gender and Y axis represents awareness of the people on vomiting sensation and nausea in COVID-19 patients. Blue denotes no and green denotes yes. Both males and females responded that they are aware that COVID-19 patients have vomiting sensation and nausea as a symptoms. Pearson chi square test shows p value is 0.015, (p value < 0.05) Hence, it is significant.

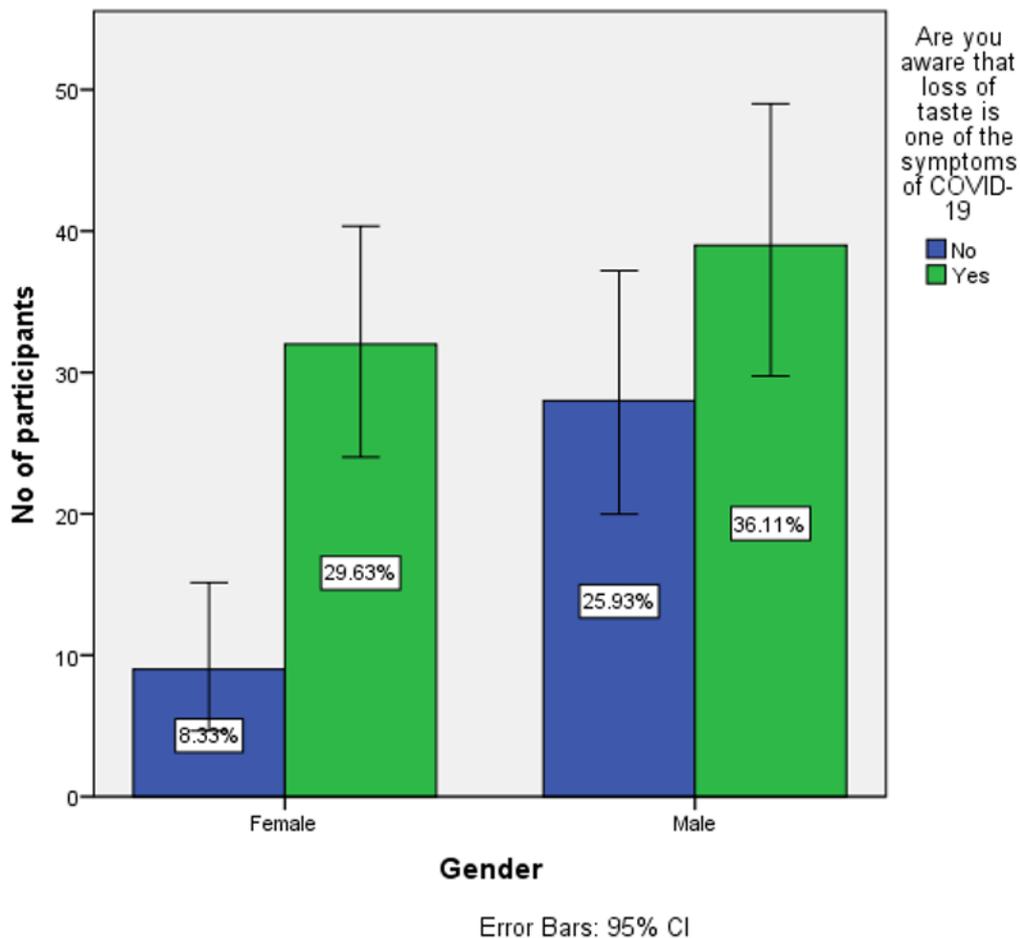


Figure 12: The bar graph represents the association between gender and awareness of loss of taste in COVID-19 patients. The X axis represents gender and Y axis represents awareness of people on loss of taste in COVID-19 patients. Blue denotes no and green denotes yes. Males were highly aware that loss is one of the symptoms of COVID-19. Pearson chi square test shows p value is 0.035,(p value < 0.05)Hence,it is significant.

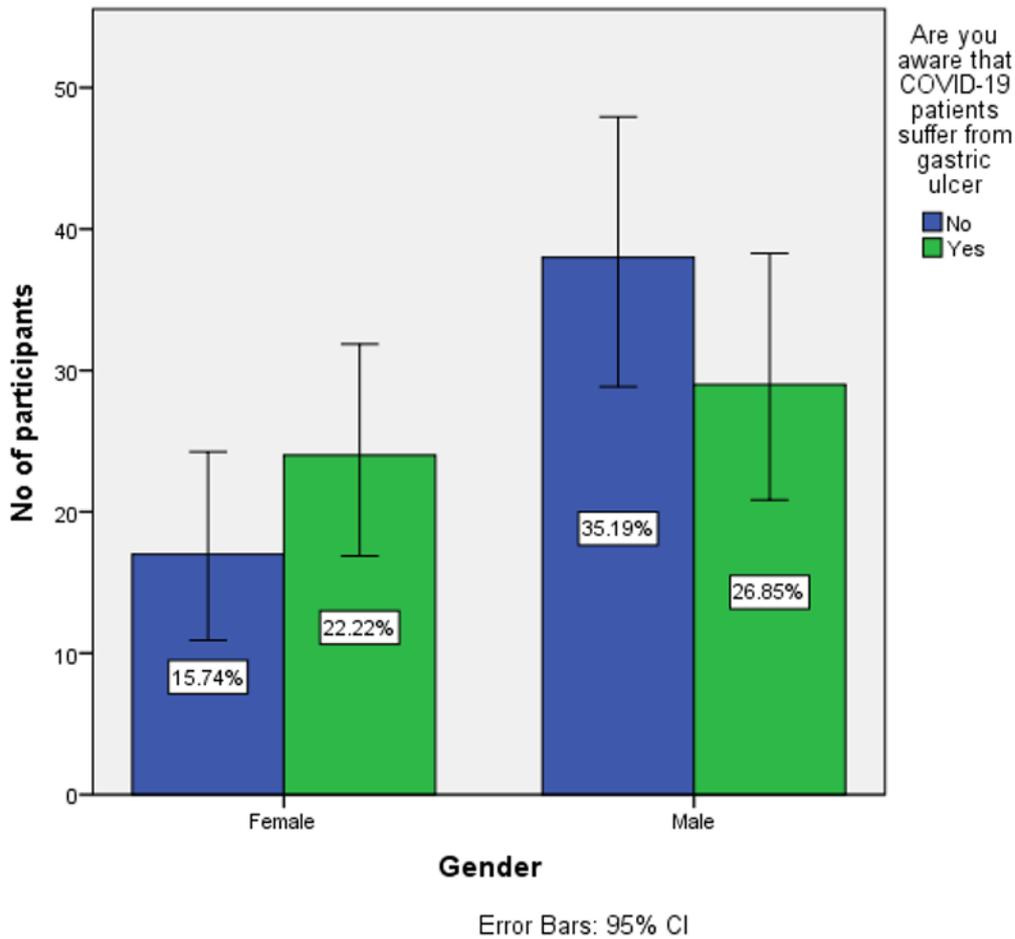


Figure 13: The bar graph represents the association between gender and awareness of diarrhea as a symptom on COVID-19 patients. The X axis represents gender and Y axis represents awareness of gastric ulcer as a symptom on COVID-19 patients. Blue denotes no and green denotes yes. Males were highly aware of gastric ulcer as a gastrointestinal symptom of COVID-19. Pearson chi square test shows p value is 0.277, (p value > 0.05) Hence, it is statistically not significant.

DISCUSSION

In this study it is identified that a number of factors directly related to the awareness of gastrointestinal symptoms in COVID-19 among the patients. The factors associated with severe inflammation of COVID-19 infections included hypertension, chronic respiratory disease, malignancy, cardiovascular disease and diabetes mellitus (26,27). The study was done with 62.04% of male and 37.96% of females. The patients taken into the survey with an average weight of 20-40kg is 14.81%, 40-60kg is 45.37% and 60-80kg is 39.81%. Among them 51.85% were suffering from fever for 1 day, 31.48% were suffering from fever for 2-4 days and 16.67% were suffering from

fever for 4-6 days (Figure:1). Among the patients they are equally aware that abdominal pain (Figure 2) and diarrhea (Figure 3) are main gastrointestinal symptoms 51.85% were equally aware about it.

Vomiting sensation and nausea are one of the gastrointestinal symptoms in COVID-19 and it is noticed among 50.93% of the patients(Figure 4). 53.70% were aware that COVID-19 has a loss of appetite as a symptom(Figure 5). It is found that systematic review states that common symptoms like diarrhea is 13%,nausea and vomiting sensation is 10% and abdominal pain 19%. They do not sense the taste of any food they intake. It is one of the main symptoms associated with COVID-19 disease. 65.74% were aware that loss of taste was a symptom (Figure:7). Many are aware that COVID-19 patients feel restless and tired. All the gastrointestinal symptoms were associated with liver enzymes, longer prothrombin time and lower monocyte count.

In a study of Pan et al(6) from Wuhan ,China even though about 50% reported having gastrointestinal symptoms the majority of these patients had anorexia (78.6%).There is a strong possibility of direct small bowel involvement resulting in direct cytopathic effects causing gastrointestinal symptoms.The limitations in this study is single-centre hospital-based study,relatively small sample size,very less time for survey. Although the specific mechanism causing gastrointestinal manifestation in COVID-19 is not entirely known there are several proposed theories(28). The further scope of the study is to know awareness on COVID-19 in all aspects and to be conducted among a larger population.

CONCLUSION

Despite hundreds of scientific publications over the past few months we still have a number of questions about COVID-19 disease and treatment methods. Therefore,identifying the symptoms and the different stages of the infection is a complicated process but a necessary task before the arrival of effective vaccines. The present study reflects the profile of awareness of gastrointestinal symptoms in COVID-19 among patients. Within the limitations of this study it can be concluded that subjects were more aware about the gastrointestinal symptoms. Further we can make people know about the gastrointestinal symptoms of COVID-19 among patients through camps and other methods or ways.

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

CONFLICT OF INTEREST

The author declares that there was no conflict of interest in the present study.

SOURCE OF FUNDING

The present study was supported by the following agencies

- Saveetha Institute of Medical and Technical Sciences
- Saveetha Dental College and Hospitals
- Saveetha University
- The International Association of Lions Club

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