ORIGINAL ARTICLE

Impact of COVID 19 on dietary practices of selected women in Tamil Nadu - An Exploratory Research

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ABSTRACT Globally, the regular practices and normal life of the people has been tilted due to COVID19. This study has been taken with an intention to find the dietary changes in the community, a detailed research questionnaire was framed and the details were collected from adult women. The results showed that about 77.2% of the respondents were between 18 and 25 years, 88% were qualified above degree, 50% of their income level is above 12,000 per month, 73% lead nuclear family, 40% of them aware about balanced diet, 54% of them have included immune boosting foods, 30% of the respondents have withdrawn from consuming junk foods and 63% of the respondent's family prepared special foods. It is elicited that due to viral disease, dietary habits of the people has changed so as to protect their health, to strengthen their immune function and to keep the communicable diseases at bay.

Keywords: COVID 19, Communicable disease, Dietary changes, Immune foods, Balanced diet

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INTRODUCTION

The globe has witnessed different kinds of communicable diseases and we learnt from the past history about the story of communicable diseases. During such days, people have suffered a lot and have also given their life to such deadly communicable diseases and many have contributed in saving the human lives. In the recent past, we all have experienced the severity and burden of the communicable diseases through COVID 19. This is a viral infectious disease is caused by SARS COV-2 Virus that can easily spread from one person to another person, while the affected person will have symptoms like sneeze, cough, speak or when they stay closure to other individual. To prevent the spread of the viral infection many measures have been taken from the initially days of identification of the virus and people were asked to follow the preventing strategies to decrease the spread of the virus. The affected individuals usually suffer from mild fever to severe fever, cough, breathing difficulty, and many of the individuals were affected to the worse and the virus has taken up many lives, which imposed a threat to the humankind. As per the recent available data 2021, about 3.43 crore people were affected by the viral infection in India and about 4.6 lakh people died due to the infection. Though, there is a clear stand that it has been identified in China and slowly has multiplied all over the world and the entire globe has been shutdown to prevent the further spread of the communicable disease. Globally, due to the impact of viral epidemiology, the regular practices and normal life of the people has been tilted. Many families have suffered a lot, socially and economically due to loss of their near and dears. The experience that has been witnessed by the COVID 19 affected individuals was terrible and there is no doubts that people have made several possible measures to protect themselves from the virus and have also switched over to a healthier life style to strengthen their immune function. But there are

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lacunae in this area and it is not clearly defined. Hence, this study has been taken with an intention and curiosity to find out the dietary changes that have occurred in the family due to the recent and ongoing epidemiology of COVID 19 Virus with the following objectives and methodology.

The present study has been carried out with the following objectives,

To assess the general characteristics of the respondents

To assess the dietary practices of the respondents

To elicit the change in the life style practices of the respondents to prevent COVID 19

METHODS AND MATERIALS

The present research is an Explanatory research study and followed cross sectional study design, where the Investigators have tried to find out the solution for a problem that is not clearly defined. Based on the research question and the objectives of the study, the research tool was framed and evaluated. Finally, understanding the epidemic circumstances of the people, and to avoid the spread of the viral infection, it has decided to carry out the research survey through online Questionnaire Method. To make the process of data collection easier, the entire questionnaire was formatted in the Google forms and the same has been sent to the respondents through their e-mail and other social media.

It has been well clearly stated in the form that filling up the form itself, will be taken as the consent from the participants. We have started the online survey collection during first week of July and ended at the end of the month. Female persons aged 18 and above were maintained as eligibility criteria for participating in the study and about 520 questionnaires were obtained from the respondents and finally after scrutinizing the questionnaires about 442 were completely filled and taken for the research analysis and the results obtained were furnished below and the same has been discussed.

The obtained questionnaires through Google forms were downloaded in the Excel format. The variables were coded and converted and kept saved for analysis. The excel sheets have been transferred in the Statistical Package for Social Sciences software spread sheet and the analysis were carried out. The obtained results were furnished and discussed below under Results and discussions..

It has been found out through the study that majority of 78% of the study participants were in the age group between 15 and 25 years, 6% in the age group between 26 and 35 years of age and nearly about 15 % in the age group above 36 years of age (Table 1).

The presence of high percentage of participation of respondents in the age group within 25 years of age may be due to active student's community, who are all accessible to social media and easily approachable through mail and other social media than that of the common public.

The nature of the status of the respondents revealed that nearly about 72% were students, 15% were employed and 13 unemployed and home maker. Subsequent analysis illustrated that age of the respondents have significant association with nature of status ($p<0.001$), income level ($p<0.001$), testing for COVID 19 ($p<0.05$) and the treatment strategies adopted by the respondents.

Table 1: General information of the Respondents

Variables	Categorization	%
Age of the Respondents	18-25 years	78.4%
	26-35	6.0%
	36-45	12.1%
	46-55	2.0%
	>55	1.5 %
Nature of status of Respondent	Student	71.9%
	House wife	8%
	Unemployed	5%
	Employed	15.1%

The economic status of the individual was elicited from the respondents to find out the influence on healthy eating practices and furnished in Table 2. It was revealed through this study that each of the Respondent's family have at least one productive family member, who backs up the economic burden of the family. Among the respondents it was elicited that only 23% of their income level is above Rs.32,050, nearly 15% of them were earning between Rs.16020 and 32,049, 14 % of the respondents family income is between Rs. 12020 and 16019 and the remaining 50% respondents family income is below Rs.12019. The reasons pointed out by the respondents for their low levels of family income is due to staying at home, effect of lockdown and due to less employment opportunities in nearby places because of COVID 19. To the investigator point of view, the economic status of the respondents has to be improved for meeting out the day to day requirements as nearly 50 % of the study population's income level is less. Subsequent analysis showed that income level of the respondents has an influencing effect on dietary knowledge and the symptoms of COVID 19. Educational status and income level of the respondents were found to have influential effect on the nutritional knowledge of the respondents.

The Family details and dietary practices of the respondents were studied and presented hereunder in Table 3. The regular dietary practices of the people have been changed due to the spread of the viral infection. As far as the family details of the respondent's is considered, nearly 72% of the respondents were living as Nuclear family, 20% live as joint family and only 8.5% of the respondents live in extended family system. Its' miserable to witness that now-a-day there is a great rift in the family system as majority of the respondents lead nuclear type family system and smaller family size, where they will lose the benefits of the joint family system that were practiced before. It was revealed through the study that nearly 80% of the respondents followed non vegetarian diet pattern. It is noted from the study that nearly about 30% of the respondents were having only two meals per day, since the majority of the participated respondents were from the student's age group, they may have the practice to skip their meals to keep them look lean.

The nutritional knowledge of respondents was studied to elicit the influencing factor of dietary transition and is furnished in Table 4. Though about 75% of the Respondents have stated that they aware about balanced diet, only 50% of the respondents have reported the right definition for balanced diet, hence, the respondents may have to improve their nutritional knowledge so as to keep themselves healthy and further public awareness programmes has to be conducted to improve the knowledge of the people to make them stay healthy during such epidemic seasons and it has been found that about 20% of the respondents were poor in understanding the concept of balanced diet. It has been evidenced that dietary knowledge of the respondents have significant relationship in change in dietary practices of the respondents. Hence, through this study it is brought out

Table 2: Financial Status of the Respondents

Earning members of the Respondent's family	Spouse/husband	19.4%
	Mother	22.4%
	Father	38.3%
	Son or Daughter	17.9%
	Two earning member	2.0%
Income level of Respondent's family per month	Greater than 32,050	23.4%
	Rs 16020 -32049	14.4%
	Rs 12020-16019	11.9%
	Rs 8010-12019	14.9%
	Rs 4810-8009	13.9%
	Rs 1601-4809	6.5%
	Less than Rs.1600	14.9%

that imparting nutritional knowledge is vital to maintain the health of the public.

Due to the viral epidemic, the normal life of the people was hampered and each of the family would have faced the negative impact of spread of viral infection. Hence, the history of symptoms of COVID 19 was gathered from the respondents and was furnished in Fi.1. In general, the fear of getting COVID 19 was commonly noticed among the public and they were then and there been instructed by the health department about the measures to be taken to protect themselves from COVID-19. Many Government Departments, including Voluntary organizations, social media, Television channels, helped in conducting awareness programmes in a massive manner about the symptoms and preventive measures of COVID and importance of COVID 19 testing in order to control the spread of the viral disease. Hence, the history of prevalence of symptoms of COVID 19 was elicited from the public and the study revealed that nearly about 84% of the respondents had the symptoms of COVID 19 (Figure 1).

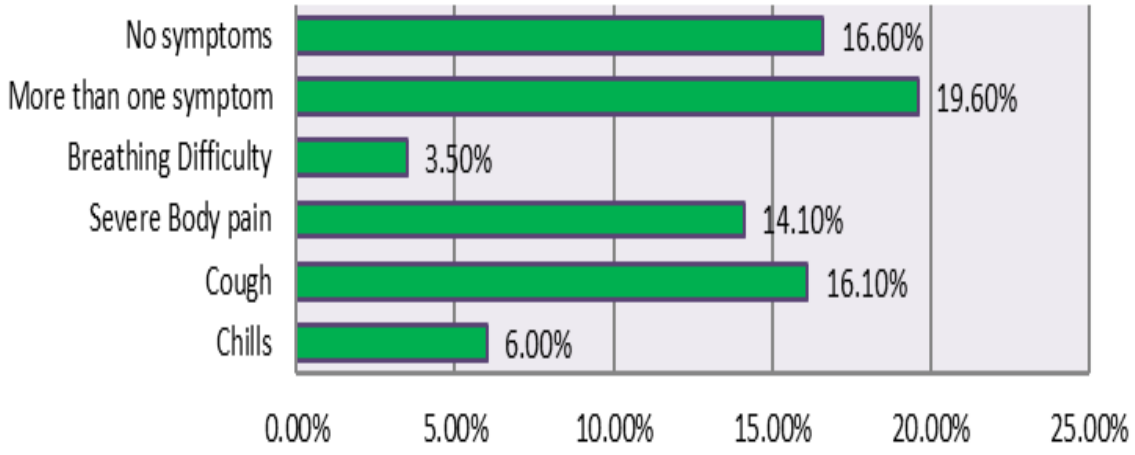
Table 3: Dietary practices of the Respondents

Type of Family of the Respondent	Nuclear (Spouse and Children)	71.5%
	Joint (Spouse, Children & in-laws	20.0%
	Extended family (Spouse, Children, In - laws and Parents)	8.5%
Number of Family members in the respondent's family	1-4	63.3%
	4-6	27.6%
	7-8	4.6%
	>8	4.6%
Dietary practices of the respondent	Pure vegetarian (only consuming plant based foods)	6.0%
	Lacto vegetarian (consuming plant foods & Milk foods)	6.0%
	Lacto ova vegetarian (Consuming Plant foods, Milk and egg)	9.5%
	Non vegetarian (consuming Plant and Animal Foods)	78.4%
No. of Meals per day of the Respondent	Two meals per day	29.6%
	Three meals per day	62.8%
	Greater than 3 meals per day	7.7%

Table 4: Dietary Knowledge of the Respondents

Type Did you aware of Balanced Diet	Yes	75.8%
	No	11.1%
	Don't Know/No idea	13.1%
Which of the following is a balanced diet	Cereals & Millet (Consuming cereals, Millet only)	3.6%
	Cereals, Millet, Pulses, Vegetables only	9.8%
	Cereals, Pulses, vegetables, milk and fleshy foods	27.3%
	Cereals, Pulses, oils, vegetables and fruits only	8.8%
	Cereals, Pulses, oils, vegetables, Fruits and Fleshy foods only	39.7%

Figure 1: Presence of Covid-19 Symptoms Among the Rspondents Family



Among them, nearly about 20% of the respondents had two symptoms and more. Though the Respondents had the symptoms of COVID 19, only 45% had tested for COVID-19 and the rest haven't opted for the test (Fig.2). Among the 45% of the tested respondents, 9% were found to get the positive result for the presence of COVID 19 virus. The reasons such as fear to go out for testing, long hours of waiting time for testing and fear for getting positive test and associated further procedures of COVID 19 treatment were reported by the respondents for having not tested for COVID 19. Further analysis revealed that the presence of symptoms among the respondent's family members exerted a positive association with testing for COVID 19 ($p<0.05$), treatment ($p<0.05$) and change in food habits ($p<0.05$) of the respondents.

In general, due to the occurrence of the viral infection, major dietary change has been observed among the population. Hence, to find out the major dietary changes among the public, the investigators elicited the change in dietary habits of the selected respondents and were furnished below. It was elicited through the study that about among 99% of the Respondent's dietary practice had changed due the spread of COVID 19 and they have started to add healthy foods in their diet to increase their immunity level of the body and also have included herbs, spices that are known for their medicinal values through traditional knowledge. Ginger, garlic, turmeric, pepper, mint, tulsi, citrus fruits, protein foods, nuts, animal foods, vegetables were opted by the Respondents to protect themselves from COVID 19. It's interesting to observe through this study that many about 65 % of respondents have reduced junk foods intake and their preference for dining out (Figure 3).

During the pandemic season, several medical prescriptions were shared through social media and as most of the COVID

Figure 2: Testing for Covid-19 and Change in Dietary Habits of the Rspondents

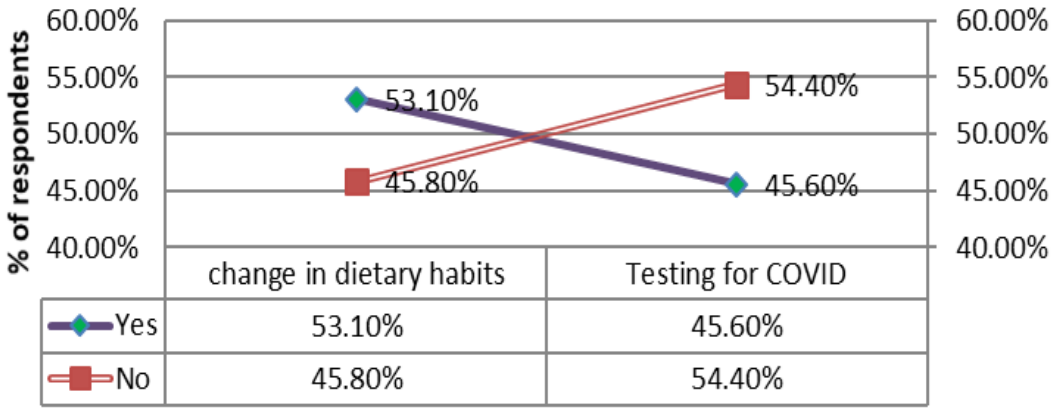


Figure 3: Inclusion of Special Foods to Protect the Body from Covid-19

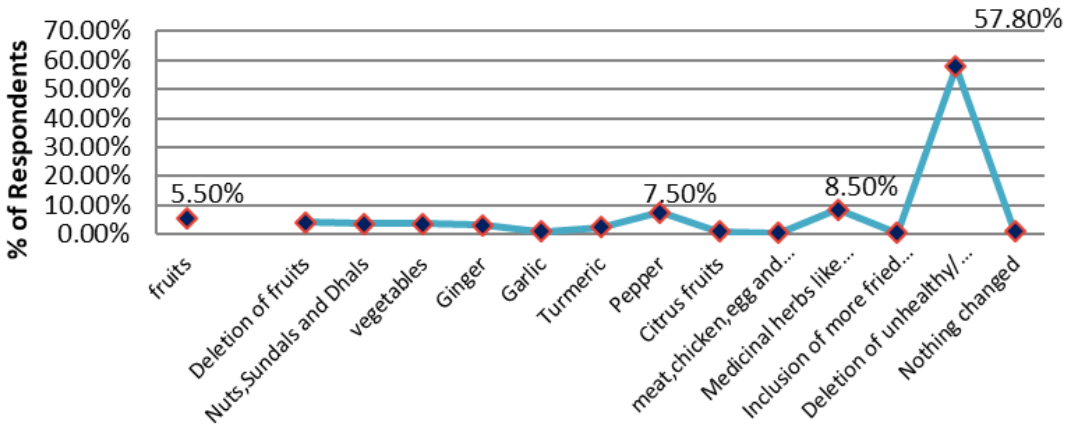
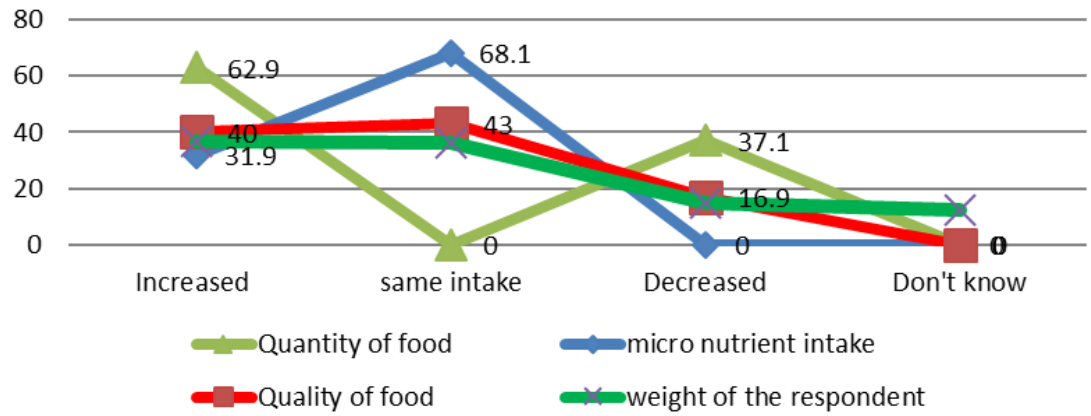


Figure 4: Dietary and Weight Changes Among the Respondents During Covid-19



19 positive were prescribed with micro nutrient tablets to improve their health condition. Hence, the investigators wished to elicit the effect of social media in the intake of micro nutrients among the respondents. It was revealed through the study that about 68% of the respondents were not influenced by the social media and they haven't opted to include multivitamin tablet, but the remaining 32% of the respondents had taken micronutrients to protect their health.

During lock down all were made to stay indoors and the rules were strictly followed by the Home Department. Most of the people enjoyed the lockdown days by taking enough care of family through providing healthy foods and have also tried for new recipes and the chance for maintaining positive energy balance is bright. It was evident from the study that about 36% of the respondents reported that their body weight increased where as nearly 15% of the respondents reported to have decreased and the rest reported as they remained in the same weight. The quantity of food consumption of the respondents were found to be escalated, since there is enough time for the family members to prepare different foods and since the family members were excited to keep themselves relax through food intake and snacking. The quality of food Consumption revealed that about 40% of the respondents quality of food intake was increased, where as 16% of the respondents stated they was decrease in the quality of food intake (Fig.4). This results obtained indirectly reflects, the purchasing power of the respondents have been decreased during lockdown due to staying of indoors and as a result of it, there is a decrease in their quality of food they consumed.

CONCLUSION

Though the COVID virus has created enormous negative impact to the society, due to this epidemic the dietary habits of the people are modified and customized to a greater extent and it has been witnessed through this present study that majority of the people have started to have right choices of

foods that will protect their health and strengthen their immune function. Furthermore, regular individual dietary advice from the Dieticians during such epidemic conditions will help the public to enhance their health and will aid in speedy recovery. These good dietary practices have to be continued to keep the communicable diseases at bay.

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