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## A study to assess the nutrition impacts among older adults affected with Covid-19 in Sathuvachari, Vellore district

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### Abstract

A previously unknown new virus was identified, subsequently named the 2019 novel corona virus was named corona virus disease 2019 (COVID-19) by (WHO February 202) the virus is referred to as SARS-CoV-2 and the associated disease is Covid-19. COVID-19 is spread by dust particles and Formites while close unsafe touch between the infector and the infected individual. The clinical features of SARS-CoV-2 infection, namely a coronavirus disease 2019 (COVID-19), range from asymptomatic to severe condition including respiratory and multiorgan failure. The human body contains chemical compounds such as water, carbohydrates, amino acids, fatty acids, and nucleic acid (DNA and RNA). These compounds are composed of elements such as carbon, hydrogen, oxygen, nitrogen, and phosphorus. Any study done to determine nutritional status must take into account the state of the body before and after experiments, as well as the

chemical composition of the whole diet and of all the materials excreted and eliminated from the body. The present study aims to assess the nutritional impacts was conducted among 60 older adults affected Covid-19. Purposive sampling technique was used to select samples. Structured interview was used collect demographic data and Nutrition was assessed using Mini Nutritional Assessment. The study results shows that the demographic variables monthly income of the family and how long can you sleep after affected with corona had shown statistically significant association with level of nutritional impact among older adults affected with Covid-19 at  $p \leq 0.001$  and  $p < 0.01$  level respectively and the other demographic variables food pattern and do you exercise daily had not shown statistically significant association with level of nutritional impact among older adults affected with Covid-19.

**Keywords:** Covid-19, Nutrition, Older adults

### 1. Introduction

In January 2020, the previously unknown new virus was identified, subsequently named the 2019 novel corona virus was named corona virus disease 2019 [COVID-19] by [WHO February 202] the virus is referred to as SARS-CoV-2 and the associated disease is Covid-19. COVID-19 is spread by dust particles and Formites while close unsafe touch between the infector and the infected individual. Airborne distribution has not been recorded for COVID-19 and is not known to be significant transmission engine based on empirical evidence; although it can be imagined if such aerosol-generating process are carried out in medical facilities. Faecal spreading has to been seen in certain patient, and the active virus has been reported in a small number of clinical studies. Furthermore the faecal-oral route does not seem to be a COVID-19 need to be identified [1, 2, 3].

The clinical features of SARS-CoV-2 infection, namely a coronavirus disease 2019 (COVID-19), range from asymptomatic to severe condition including respiratory and multiorgan failure. Major symptoms are fever, dry cough, fatigue, myalgia, and dyspnea. Headache, hemoptysis and diarrhea occur less commonly [4, 5, 6, 7]. Medical protocol consists mainly of symptomatic treatment and the prevention of secondary infection [8]. Effective antiviral treatment for SARS-CoV-2 has not been identified yet.

The human body contains chemical compounds such as water, carbohydrates, fatty acids (found in lipids), amino acids (found in proteins), and nucleic acid (DNA and RNA). These compounds are composed of elements such as carbon, hydrogen, oxygen, nitrogen, and phosphorus. Any study done to determine nutritional status must to be take into account the state of the body before and after experiments, as well as the chemical composition of the whole diet and of all the materials excreted and eliminated from the body [9].

India is said to be shifting from an undernourished population with advances in health, economy and medical care. But there is paucity of information regarding nutritional status of older adults in the country.

The seven major classes of nutrients are Carbohydrates, fat, fibers, minerals, protein, vitamins and water. Nutrients can be grouped as either-macronutrients and micronutrients (needed in small quantities). Carbohydrates, fat and proteins are macronutrients and provide energy. Water and fiber are macronutrients but do not provide energy. The micronutrients are minerals and vitamins. The macronutrients (excluding fiber and water) provide structural material (amino acids from which proteins are built, and lipids from which cell membranes and some signaling molecules are built), and energy. Some of the structural material can also be used to generate energy internally, and in either case it is measured in joules or kilocalories (often called "Calories" and written with a capital 'C' to distinguish them from little 'c' calories). Carbohydrates and proteins provide 17 kJ (4 kcal) of energy per gram, while fats provide 37 kJ (9 kcal) per gram, though the net energy from either depends on such factors as absorption and digestive effort, which vary substantially from instance to instance [10, 11].

The average life span of human at birth has been increased in the last century, approximately from the 45 years to 80 years. It is estimated that by 2050, about 21.5% of the global population will be over 60 years of age [12, 13].

This demographic transition of increased life expectancy is associated with the burden of several age related disorders, including frailty [14].

Old age refers to ages nearing or surpassing the life expectancy of human beings, and is thus the end of the human life cycle. Terms and euphemisms include old people, the elderly, OAPs, seniors, senior citizens, older adults (in the social sciences) and the elders [15].

Elderly people often have limited regenerative abilities and are more susceptible to disease, syndromes, injuries and sickness than younger adults. The organic process of ageing is called senescence, the medical study of the aging process is called gerontology [16, 17].

The study of diseases that afflict the elderly is called geriatrics. The elderly also face other social issues around, retirement, loneliness, and aging. Old age is not a definite biological stage, as the chronological age denoted as "old age" varies culturally and historically [18, 19, 20].

**The purpose of the study**

1. To description of the demographic variables of the older Adults affected with covid-19.

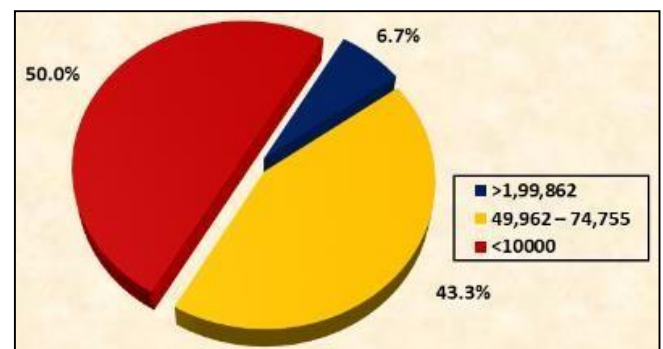
2. To Assessment the level of nutritional impact older adults affected with Covid-19.
3. To association the level of nutritional impact with selected Demographic variables.

**2. Methods and Materials**

A quantitative approach with descriptive research design was used to assess the Nutritional Impacts among older adults affected with Covid-19 conduct the study in Vellore. The 60 sample were selected by purposive sampling technique. The criteria for sample selection Covid – 19 affected older adults between the 65 to 74 years of age. The exclusive criteria for the samples are Covid-19 not affected older adults. The data collection period was done with prior permission from the village head of and ethical clearance was obtained from the institution (SIMATS). The purpose of the study was explained to the samples and written informed consent was obtained from them. The demographic data were collected using a data was collected using Structured Interview Questionnaire, and the Nutritional Impacts was assessed using Mini Nutritional Assessment.

**3. Results**

**Section A: Description of the Demographic Variables of the Older Adults affected with Covid-19.**



**Fig 1:** Percentage distribution of monthly income of the family of older adults affected with

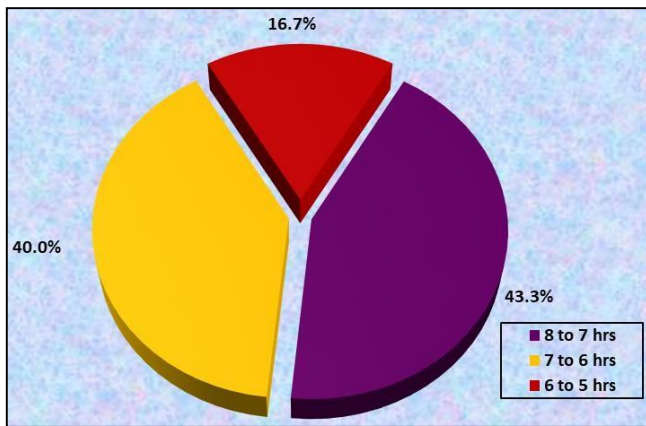
**Covid-19**

The above show that the percentage distribution of monthly income of the family in (6.7%) is >1,99,862, (43.3%) is 49,962 to 74,755 and the (50.0%) is <10,000.

**Table 1:** Frequency and percentage distribution of demographic variables of older adults with Covid-19 N = 60

Demographic Variables	No.	%
<b>Monthly income of the family</b>		
>1,99,862	4	6.7
49,962 – 74,755	26	43.3
<10000	30	50.0
<b>How long can you sleep after affected with Corona?</b>		
8 to 7 hrs	26	43.3
7 to 6 hrs	24	40.0
6 to 5 hrs	10	16.7
<b>Food pattern</b>		
Vegetarian	6	10.0
Non-vegetarian	19	31.7
Both	35	58.3
<b>Do you exercise daily?</b>		
No	32	53.3
Yes	28	46.7

Most of the older adults with Covid-19, 30(50%) had a family monthly of <10,000, 26(43.3%) slept for 8 to 7 hrs after affected with corona, 35(58.3%) were both vegetarian and non-vegetarian and 32(53.3%) had not exercised daily.



**Fig 2:** Percentage distribution of how long can you sleep after affected with Corona

The above shows that percentage distribution is Sleep Pattern affected with Corona (16.7%) in 8 to 7 hours sleeping, (40.0%) in 7 to 6 hours sleeping and (43.3%) in 6 to 5 hours sleeping.

**Section B:** Assessment of level of Nutritional impact among

**Table 4:** Association of level of nutritional impact among older adults affected with Covid-19 with their selected demographic variables N=60

Demographic Variables	Nutritional Deficiency		Risk of Nutritional Deficiency		Normal Nutrition		Chi-Square Value
	No.	%	No.	%	No.	%	
<b>Monthly income of the family</b>							$\chi^2=19.269$ d.f=4 p = 0.001 S***
>1,99,862	3	5.0	1	1.7	0	0	
49,962 – 74,755	2	3.3	23	38.3	1	1.7	
<10000	2	3.3	23	38.3	5	8.3	
<b>How long can you sleep after affected with Corona?</b>							$\chi^2=16.599$ d.f=4 p = 0.002 S**
8 to 7 hrs	6	10.0	14	23.3	6	10.0	
7 to 6 hrs	1	1.7	23	38.3	0	0	
6 to 5 hrs	0	0	10	16.7	0	0	
<b>Food pattern</b>							$\chi^2=3.964$ d.f=4 p = 0.411 N.S
Vegetarian	0	0	5	8.3	1	1.7	
Non-vegetarian	3	5.0	16	26.7	0	0	
Both	4	6.7	26	43.3	5	8.3	
<b>Do you exercise daily?</b>							$\chi^2=0.567$ d.f=2 p = 0.753 N.S
No	4	6.7	24	40.0	4	6.7	
Yes	3	5.0	23	38.3	2	3.3	

\*\*\*p<0.001, \*\*p<0.01, S – Significant, N.S – Not Significant

The table 4 shows that the demographic variables monthly income of the family and how long can you sleep after affected with corona had shown statistically significant association with level of nutritional impact among older adults affected with Covid-19 at p<0.001 and p<0.01 level respectively and the other demographic variables food pattern and do you exercise daily had not shown statistically significant association with level of nutritional impact among older adults affected with Covid-19.

**4. Discussion**

Nutrition impacts is the assessing the risk of Nutrition in the

older adults affected with covid-19

**Table 2:** Frequency and percentage distribution a level of nutritional impact among older adults affected with Covid-19

Level of Nutritional status	No.	%
Nutritional deficiency (<17)	7	11.7
Risk of nutritional deficiency (17 – 23.5)	47	78.3
Normal (24 – 30)	6	10.0

The above table 2 shows that 47(78.3%) were at the risk of nutritional deficiency, 7(11.7%) had absolute nutritional deficiency and 6(10%) had normal nutritional status.

**Table 3:** Assessment of nutritional impact scores among older adults affected with Covid-19 N=60.

Nutritional Status	Mean
Minimum Score	14.0
Maximum Score	25.50
Mean	20.20
Standard Deviation	2.62

The table 3 depicts that the mean score of nutritional impact among older adults affected with Covid-19 was 20.20 with standard deviation 2.62 with minimum score of 14.0 and maximum score of 25.50.

**Section C:** Association of Level of Nutritional Impact with selected Demographic Variables.

affected Covid-19 Older adults. In this study used to Mini Nutritional assessment for the Screening, Assessing Risk of Malnourished. Similar Kind of finding was observed after the analysis of the data in current study also. In this p<0.001 and p<0.01 level respectively and the other demographic variables food pattern and do you exercise daily had not shown statistically significant association with level of nutritional impact among older adults affected with Covid-19.

**5. Source of Funding**

Nil

## 6. Conflicts of Interest

The authors declare no conflicts of interest

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