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Impact Analysis Of Fear, Knowledge, And Attitudes On Purchase Behavior Of Nutritional Supplements Before And After COVID19: A Cross-Sectional Study In Krishna District, Andhra Pradesh, India.

Usha Rani¹, and Bobba Babitha^{2*}.

¹Doctoral Research Scholar, Department of Food Science and Nutrition Acharya Nagarjuna University, Guntur, Andhra Pradesh, India.

²Assistant Professor, Department of Food Science and Nutrition, Acharya Nagarjuna University, Guntur Andhra Pradesh, India.

ABSTRACT

Nutritional supplements are essential driver not only for normal growth but also to boost immunity to fight against infection. Fear and lack of proper treatment for COVID19 have created many concerns worldwide, which has given rise to finding alternative options for prevention and ways to build immunity. Consumption of dietary supplements, herbal extracts, and other natural products has increased remarkably to improve immunity. People's belief systems have changed towards consuming supplements before and during COVID-19. The influence of social media and the other related sources on the internet were the primary sources of motivation for purchasing accessories. Though there is not enough scientific data to establish the role of dietary supplements and the prevention of COVID19, the sales of the DS have dynamically increased. The present study examines the consumer knowledge, fear, and attitude toward the purchase behaviour of supplements before and during COVID 19. The cross-sectional study was conducted in the Krishna district, Andhra Pradesh, India. A total of 214 individuals in the age group above thirty participated in the study. Patients visiting the hospital patient department participated in the study. The questionnaire was divided into two sections. The first section contains general information like age and demographics, and the second questions about purchasing behaviour. Behaviours were analyzed with SPSS AMOS, SEM analysis, and factor analysis. The results indicate a meaningful relationship between supplement purchase and fear, attitude, and immune-building stress. Most of the respondents consumed supplements during COVID 19. It was attributed to worry and to building immunity.

Keywords: Nutrition, Supplements, Fear, Immunity, COVID-19, Prevention.

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**Corresponding author*

INTRODUCTION

The usage of supplements steadily increased during the COVID19 pandemic all over the world. Increasingly grown reports have demonstrated that COVID-19 had left its mark in 2021 and affected the lives of millions worldwide (World Health Organization, 2020). The COVID19 pandemic has caused anxiety, depression, fear of infection and death, and losing and losing loved ones, leading to stress disorder [1]. Fear creates psychological and emotional stress among the population. The high mortality rate and high infection transmission rate created a psychological burden. Few reliable sources recommend preventive measures, and other sources create havoc among the population. Some pre-measures governments and the World Health Organization suggested include washing hands, sanitization, and social distance, wearing a mask, and avoiding social gatherings. Lockdowns are imposed in many countries [2] in different waves. Home isolation and quarantine measures are also taken. Along with the above measures, other preventives for health include immune boosters, supplements like Vitamin C, Zinc, Vitamin D, and other alternative remedies with kitchen ingredients; home and Ayurveda supplements are also used to prevent [3]. Over the past few years, there has been a notable increase in the consumption of supplements. With the advice of a health professional, people used to take supplements. DS (Dietary supplements) contains one or more biological dietary compounds in vitamins, minerals, amino acids, or other substances with nutritional or physiological effects. Much propaganda has been given during the COVID19 on social media over the supplement's usage [4]. The use of herbal and traditional remedies for prevention has increased during COVID 19. Several accessories in gummies, powders, blends, and teas are available. People developed a belief system, stronger immunity, and excellent health. People started seeking additional protection in the form of supplements. People's awareness of health, good diet, and lifestyle changed remarkably during the pandemic [5].

Several studies have shown the beneficial effects of micronutrients like zinc, Vitamin C, and Vitamin demonstrated the suppression of the viral symptoms caused by respiratory pathogens [6]. Many factors especially fear, influence consumers' purchase behaviour, and the process of building immunity has played a significant role. The present study elucidates the elements of fear, immunity building, and attitude toward supplement purchase behaviour. A patient's immunity and nutritional status play a massive role in COVID -19, prevention, and disease outcome [7-9]. At the start of the pandemic, there was a significant increase in the sales of vitamins and other supplements. Everywhere in the world, a relatively similar increase in sales of supplements is noted [10-14]. The growth is attributed mainly to the consumer's fear and perception of nutraceuticals and dietary supplements as protection against infection. Many products are claimed to be immune-boosting [15]. Nutraceuticals and dietary supplements come under non-Pharma products. Nutritional supplements are considered a supplement to the diet and will aid in treating or preventing the disease [16]. At the same time, the dietary supplement regulations do not fall under the Food and Drug Administration (FDA) [17]. Few companies have given false promises during COVID-19 about the valuable benefits of supplements against infection [18].

Need of the study

The leading world death count, lack of suitable medicine/therapeutics, and vaccine created havoc in the large number of population during first and second wave of COVID 19. Immunity provides an overall shield to fight such infections and minimizes disease severity and duration as well. In the fight against COVID19 prevention remain key tools and uses of nutritional dietary supplements become essential. It has been reported that the clinical deficiencies of nutrients may increase the susceptibility to infections and lead to severe illness. This knowledge, attitude, and fear lead to the consumption of dietary supplements. Many social media platforms are bombarded with dietary supplement consumption and its positive effects. People around the world started focusing on immune building and preventive measures. Keeping given the perspectives, there is a need to study the relation between purchase behaviour and COVID19 fear.

Aim of the study

The present study aims to determine the fear factor of consumer purchasing behaviour on dietary supplements. The present provides a scientific basis for the connection between Fear, knowledge, and attitude toward the purchase of the supplement.

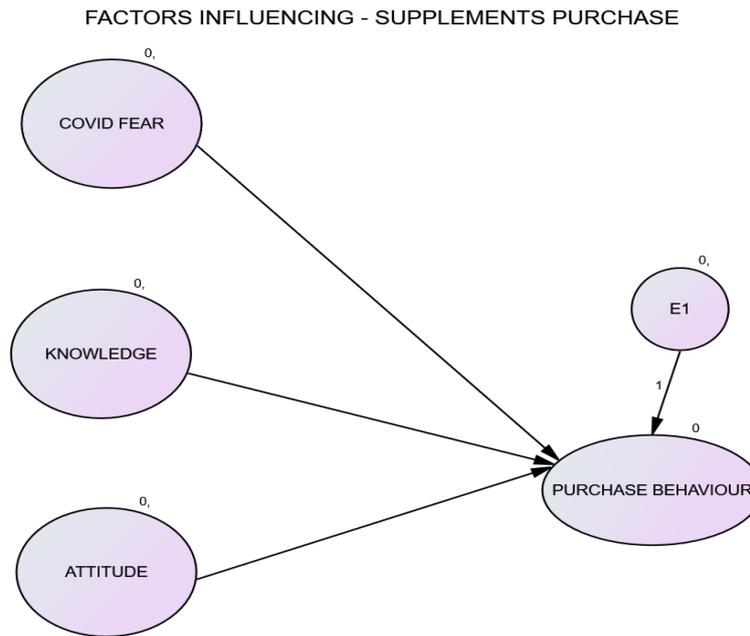


Figure 1: Factors influencing supplements purchase

METHODOLOGY

A total of 214 respondents participated in the study. The study was conducted between March and May 2021. All those patients visiting the outpatient department of the hospitals above the age of 30 participated in the study. The questionnaire consists of two sections. The first section collected general information. In the second section, the questions contained regarding the attitude, knowledge, fear scale, and purchase of supplements before corona were collected. The contactless form is circulated through WhatsApp and explained to all the participants.

Sampling strategy

All the participants participated in the study willingly. The objectives and aims were clearly explained. Inclusion criteria include those above 30 years of age; only visiting outpatient departments are included. Exclusion criteria include those under 30 years and half-filled forms excluded.

Sample size

A total of 214 participants were included in the study.

Statistical analysis

Structured equation modeling SEM analysis with AMOS 19.0, SPSS used for the statistical analysis. SEM analysis tests the relationship between COVID19 fear, immune building, and attitude toward purchasing supplements. A connection was estimated between latent variables. P-value was assessed to find the significance of COVID19 fear about the purchasing behavior of the accessories.

RESULTS AND DISCUSSION

Consumers increasingly started taking over-the-counter medicines in the COVID19. Especially the sales of Vitamins, like Vitamin C, Vitamin D, and multivitamins, and Minerals like Zinc and Calcium doubled. Fear of preventing, people started depending more on supplements to make the immune system strong. Though there is not enough scientific data to prove the supplements, little scientific evidence has demonstrated that immunity enhancement will help lower the infection rate and reduce ICU stay [19]. Out of (n=214) respondents, females were n=106, and the male number was n=108; the ratio is the same. All the respondents are above 30 years of age. The average mean age of the sample population was

39.47. All the participants are residents of the Krishna district. The results indicate that the purchase behavior of the respondents is influenced by the fear scale, purchase attitude, and demand to build immunity influenced.

Table 1: Mean, SD, of the variables (purchase behavior, fear scale, immunity, and attitude)

Mean, SD, of the variables			
	Mean	Std. Deviation	N
Purchase behavior	1.31	.463	214
Fear scale	3.16	1.438	214
Immunity enhancement	1.40	.491	214
Attitude	1.74	.836	214

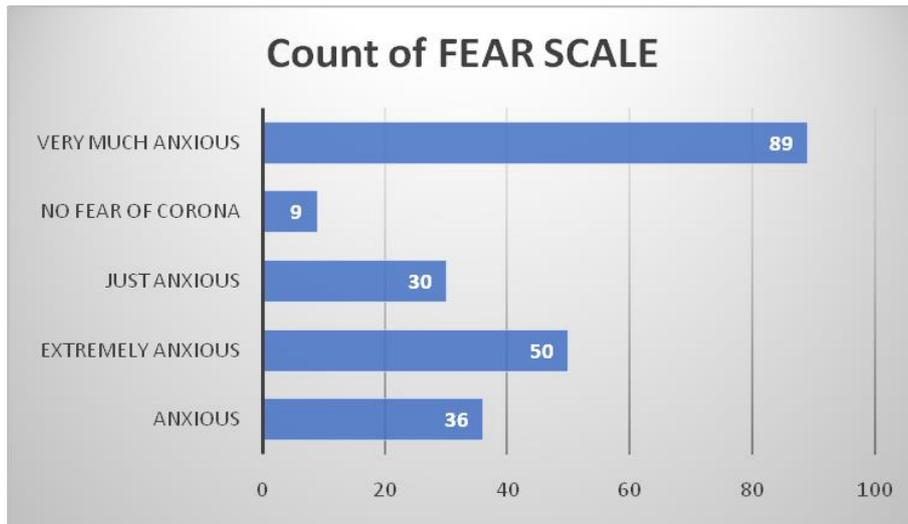


Figure 2: Figure demonstrates the fear scale among the participants during the purchase of nutritional supplements during the COVID19 pandemic.

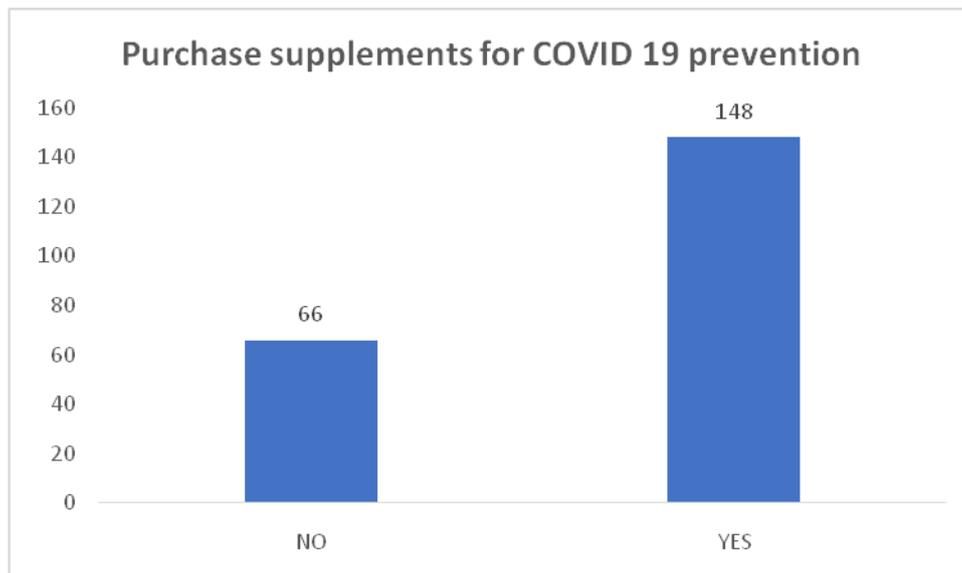


Figure 3: Purchase of supplements for COVID prevention

In figure 3, the results indicate that n=148 respondents purchased supplements either with fear or to build their immunity or attitude, and knowledge further made them pursue accessories [20].

Table 2: Correlations

		Purchase	Fear Scale	Immunity	Attitude
Pearson Correlation	Purchase	1.000	-0.067	-0.011	0.012
	Fear scale	-0.067	1.000	0.009	-0.024
	Immunity	-0.011	0.009	1.000	0.070
	Attitude	0.012	-0.024	0.070	1.000
Sig. (1-tailed)	Purchase	.00	0.165	0.438	0.433
	Fear scale	0.165	.00	0.449	0.361
	Immunity	0.438	0.449	.00	0.155
	Attitude	0.433	0.361	0.155	.00
N	Purchase	214	214	214	214
	Fear scale	214	214	214	214
	Immunity	214	214	214	214
	Attitude	214	214	214	214

The fear scale consists of 1 to 5. The number 1 indicates no fear for corona, whereas five indicates extremely anxious towards COVID 19. Respondents' feedback on immune boosters for the prevention and purchase attitude about anxiety and immunity were also assessed. The correlation table indicates a significant relationship between the independent variables fear scale, immunity, and attitude towards purchase behavior. The present study correlates with the [21] immune boosters and supplements' immune reinforcement benefits that may appeal to consumers in the treatment phase or as a preventive measure.

	Estimate	S.E.	C.R.	P
Fear scale	2.059	.200	10.320	***
Immunity	.240	.023	10.320	***
Attitude	.696	.067	10.320	***
e1	.212	.021	10.320	***

COVID 19 fear and purchase intension

The study's findings indicated that the fear and anxiety of COVID-19 related to the consumer's purchase intention of supplements. A positive association is shown between the COVID19 fear and purchase intention. All the respondents in the study said the fear of COVID 19 affected their psychology. The SEM analysis suggests a value of 3.16; the P-value is highly significant at the 0.5 confidence interval. P-value <0.001 was noted between the fear scale and purchase intention. The potential benefits of the supplements should be explained to the public to decide whether the products are helpful for the purchase or not [22].

Immunity enhancement in COVID 19 purchases behavior of supplements.

High susceptibility to disease and its infection spreading rate created massive awareness among the public about immunity building. The immune reinforcement benefits of dietary supplements have been applied to the consumers as prevention measures. Social media and other sources have built confidence among the population about the immune boosters for COVID 19 prevention and management [23]. Many companies have implemented a fear-based promoting strategy. Prevention better than cure policy has gained importance. Many products, especially herbal teas, protein powders, shakes, and other consumers purchased to enhance their immunity [24]. The purchase intention about immune-boosting is incredibly significant. The SEM analysis in the figure indicates a positive correlation between both [25-26].

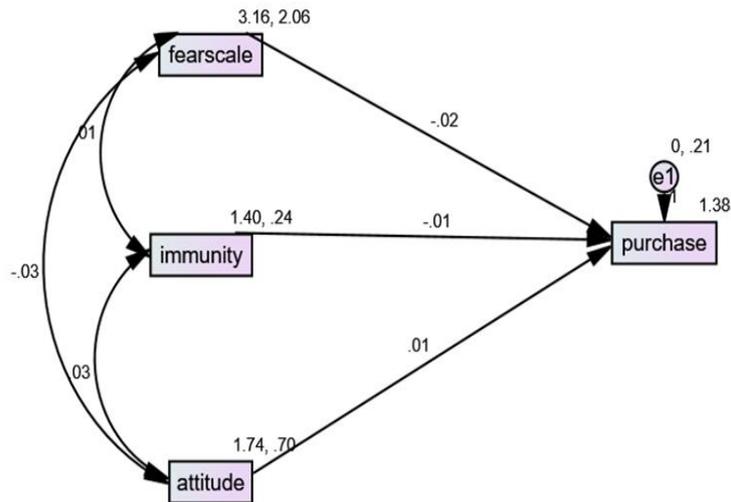


Figure 4: SEM analysis of purchase behavior of respondents

Attitude and purchase behavior of the supplements

Consumers’ attitude towards purchase behavior is evident. The entire respondent’s attitude toward the purchase of the supplements is positive. The SEM analysis indicates a positive relationship between consumer attitudes towards purchase behavior. The P-value is significant.

CONCLUSIONS

The present study elucidates that during the COVID -19 pandemic, public behaviors toward purchasing supplements have changed. The fear scale is the highest influence factor. A significant relationship is established between the COVID fear factor and the purchase intention of the supplements. Study findings also show that immune building is another factor that makes people purchase accessories. People’s attitudes have a positive choice toward a purchase behavior.

Abbreviations

Coronavirus Disease 2019 (COVID19), Novel Severe Acute Respiratory Syndrome Coronavirus 2 (nSARS-CoV2), Statistical Package for the Social Sciences (SPSS), AMOS, structural equation modelling (SEM), Dietary supplements (DS), World Health Organization (WHO), Food and Drug Administration (FDA), Intensive Care Unit (ICU), Standard Deviation (SD).

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