

Awareness about the Role of Antioxidants in Health among Medical Professionals in the South Indian Population.

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ABSTRACT

Antioxidants are substances which may prevent cell damage and tissue damage. Antioxidants are also known as free radicals scavengers, they neutralize the free radicals and prevent cell damage. Vitamin C and E and beta carotene are few dietary antioxidants. Antioxidants can prevent the oxidative stress caused which is caused by particulate matter [PM] from the polluted environment and also by asthma. Most powerful natural antioxidants are Vitamin C and Glutathione. *Hedychium spicatum* plant is used as a medicinal food by people in Uttarakhand due to the high potential of antioxidants. Natural antioxidants are helpful in maintaining storage stability of sunflower oil. Lemon juice is a good source of Vitamin C. To know that the awareness about the role of antioxidants in health among medical professionals in the South Indian population. Self-administered questionnaire was prepared about the awareness among the role of antioxidants in health among medical professionals, distributed to 100 participants through online google form link and data are collected and analyzed. 76.7% participants said that antioxidants are substances that prevent cell damage and 73.3% of participants said that antioxidants can increase neuronal physiology and brain function. This survey helps to create awareness about the role of antioxidants in health among medical professionals in the South Indian population.

Keywords

South Indian population; Medical professional; Antioxidants; health; awareness.

INTRODUCTION

Antioxidants are substances which may prevent cell damage and tissue damage. They are rich in vegetables and fruit, but research has not proved that they have a tendency to prevent disease. Antioxidants are also known as free radicals scavengers, they neutralize the free radicals and prevent cell damage. Vitamin C and E and beta carotene are few dietary antioxidants. Vitamin C is a water soluble vitamin that can prevent lipid peroxidation and at the same time it has the tendency to regenerate the vitamin E. Antioxidants can boost the immune system's defence mechanism. A few laboratory test results have shown that antioxidants can prevent specific diseases such as cardiovascular disease, humans can also be exposed to free radicals by environmental sources such as air pollution and smoking. This may lead to cell and tissue damage which is caused by oxidative stress. Excessive intake of antioxidants is dangerous. Most powerful natural antioxidants are Vitamin C and Glutathione. The main aim of study is to know that the medical professionals in the South Indian population have an awareness about the antioxidant and also know if they recommend the antioxidant to the patient.

From the previous article antioxidants help to prevent diseases that are associated with the free radicals (1). Antioxidants prevent the cellular damage from the reactive oxygen species such as hydroxyl radicals (2). Antioxidants supplied with the ruminant to the animals helps to maintain immunological and physiological function of the animal body which maintain the quality of the animal products such as milk etc (3). The essential oil and *nigella sativa* help to improve the immunity level (4). Antioxidants in the apple pomace helps in the enrichment of food fortification by increasing the level starch in the food (5). Antioxidants can prevent the oxidative stress caused which is caused by particulate matter [PM] from the polluted environment and also by asthma (6). *Hedychium spicatum* plant is used as a medicinal food by people in

Uttarakhand due to the high potential of antioxidants (7). Apart from the terrestrial vegetable few seaweed(chlorophyta and phaeophyta) also contain antioxidants with their mineral contents (Na/k)&(C/N) (8). Natural antioxidants are helpful in maintaining storage stability of sunflower oil(9). It also helps in preventing cancer (10). Few chinese medicinal plants contain high levels of antioxidants such as *P.multiflorum*Thunb(11).

From the previous studies we came to know that the research was done with the properties of antioxidants and main aim of our is to know awareness among the role of antioxidants in health among the medical professionals in the South Indian population.

MATERIALS AND METHODS

Self Administrated questionnaire was designed based on the awareness among the role of antioxidants in health among medical professionals in the South Indian population. This questionnaire was distributed through the online google form link the study population , Include 100 participants belonging to 17-22 years of the age group. The participants were explained about the purpose of the survey in detail. These questions were carefully studied and corresponding answers were marked by the participants

RESULTS AND DISCUSSION:

Results showed that the majority of participants were aware about the role of antioxidants in health. 76.7%participants said that antioxidants are substances that prevent the cell damage occurring due to the free radical and 23.3% of them said that the substance that doesn't prevent cell damage [Figure 1]. 80.7% of participants said that Dark chocolate has a high oxygen radical absorbance capacity and only 19.3% of them said that Goji berry has high oxygen radical absorbance capacity[Figure 2]. 79.5% of the participants recommend patients to use the antioxidants ,but only 20.5% of them don't recommend antioxidants to the patient[Figure 3]. 21.6% of participants said that fermented grains are a good source of antioxidants, 25% of them said that Garlic is a good source for antioxidants and 53.4% of them said both are good antioxidants [Figure 4]. 72.9% of participants said that synthetic antioxidants can prevent Alzheimer disease and 27.1% of them said that it helps to prevent cardiovascular disease[Figure 5]. 73.3% of participants said that antioxidants can increase neuronal physiology and brain function and 26.7% of them refused this statement[Figure 6]. 15.3% of participants said that antioxidants can prevent diabetes, 27.1% of them said it prevents cardiovascular disease and 57.6% of them said that antioxidants prevent both the disease[Figure 7]. 56.5% of participants said that high intake of antioxidants can increase the risk of cancer and only 43.5% of them didn't accept this statement[Figure 8]. 53.1% of participants said that administration of antioxidants can inhibit Reactive oxygen species and 46.9% of them said that the administration of antioxidants doesn't inhibit Reactive oxygen species[Figure 9].

From the previous study 70.5% of participants were aware about the antioxidant and the result was more or less similar with our study that 76.7% of participants were aware about it(12). From the previous study the participants accepted that antioxidants have the capability to prevent diseases like Alzheimer's disease, this result was more similar that 79.1% of participants accepted that antioxidants prevent diseases like Alzhemier's disease(13). From the previous study antioxidants prevent lipid peroxidation which is caused by the free radicals(reactive

oxygen species), this result is more or less similar to our study that 53.1% of participants said that antioxidants can prevent the oxidation occurring by the free radical(Reactive oxygen species)(14). From the previous study,the grains are a good source of antioxidants, the result is more or less similar with our study that 21.6% of participants said that fermented grains are a good source of antioxidants(15).

The study has certain limitations, awareness were restricted on the particular population with the limited age among medical professionals and they were randomly selected 100, in future this study can help to know the importances of intake of antioxidant with the regular food habits which may help the normal people to prevent them self from various types of disease and make them to be more aware of the use of antioxidants in their daily life.

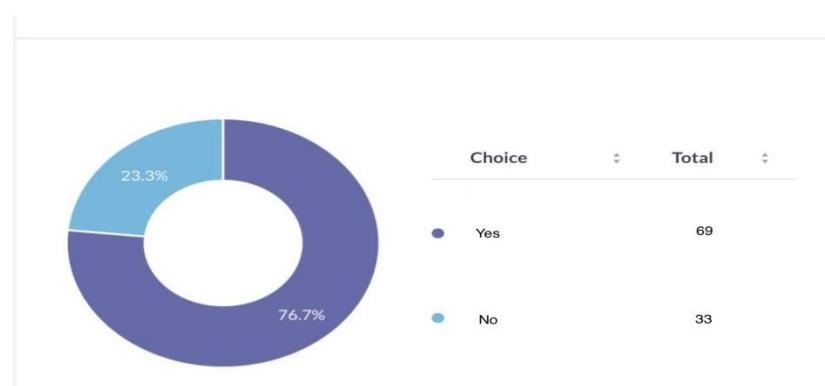


Figure 1: Pie chart shows Distribution of study subjects based knowledge of participants about the antioxidant that prevent the cell damage occurring due to the free radicals. Shows responses for the question ‘Antioxidants are the substance that prevent the cell damage due to free radicals’ positive responses (76.6%) are in violet colour and negative responses (23.3%) are in blue colour.

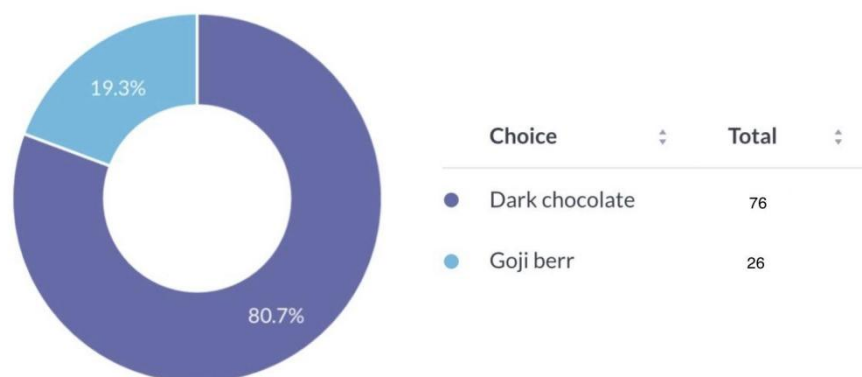


Figure 2: Pie chart shows Distribution of study subjects based knowledge of participants about the high oxygen radical absorbance capacity. Shows responses for the question ‘Among these two antioxidants food which has high oxygen radical absorbance capacity’

response for dark chocolate(80.7%) are in violet and response for gojiberry(19.3%) are in blue.

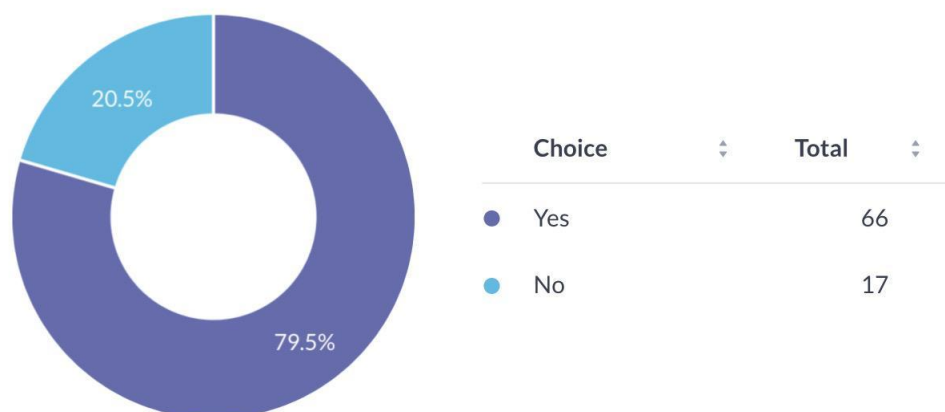


Figure 3: Pie chart shows Distribution of study subjects based knowledge of participants to recommend antioxidants to the patients. Shows responses for the question ‘ Will you promote the use of antioxidant among the patients’ positive response(79.5%) are in violet and Negative response(20.5%) are in blue

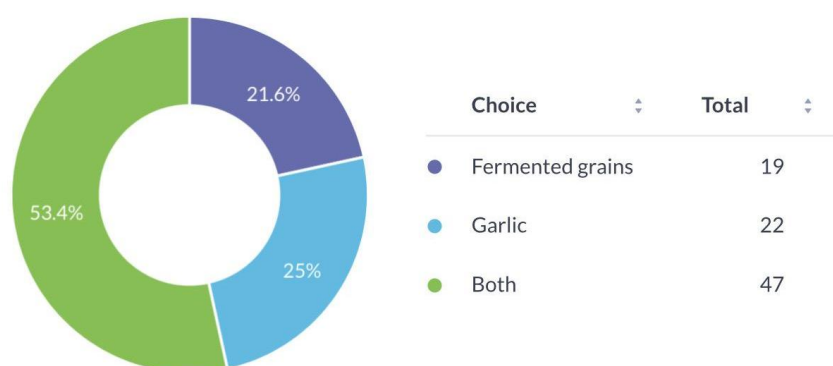


Figure 4: Pie chart shows Distribution of study subjects based knowledge of participants about the source of antioxidants. Shows responses for the question ‘What are the source of antioxidants’ response for fermented grain(21.6%) are in violet , response for Garlic(25%) are in blue and response for both(53.4%) is in green

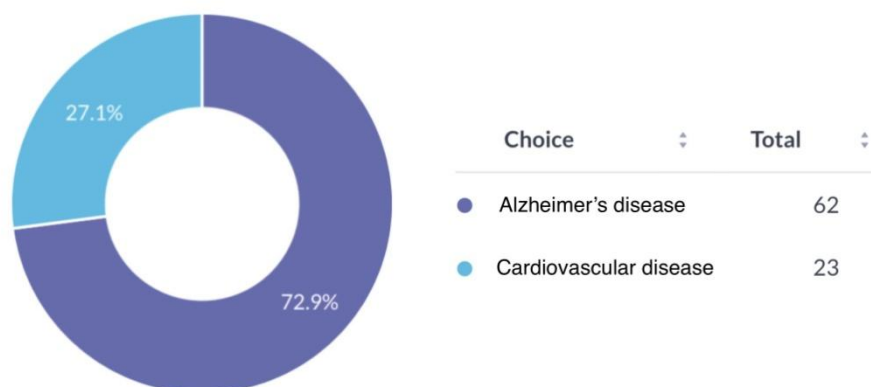


Figure 5: Pie chart shows distribution of study subjects based on the knowledge of participants about the synthetic antioxidant that can prevent diseases such as Alzheimer disease and cardiovascular disease. Shows responses for the question ‘Synthetic antioxidants can prevent which disease’ responses for Alzheimer disease(72.9%) are in violet and responses for cardiovascular disease(27.1%) are in blue.

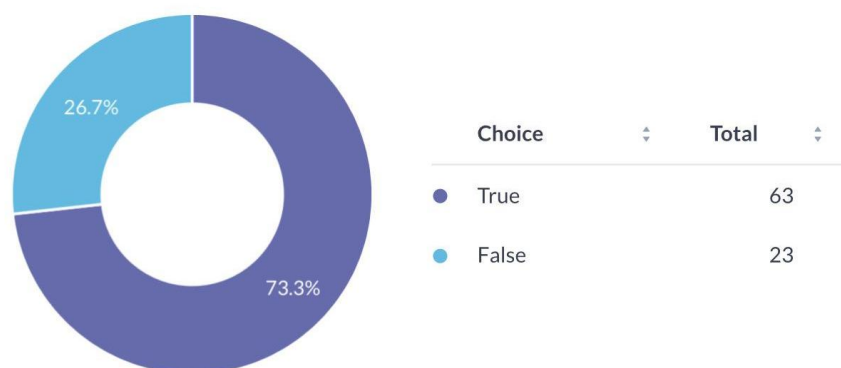


Figure 6: Pie chart shows distribution of study subjects based on the knowledge of participants about the antioxidant can increase neuronal and brain function. Shows responses for the question ‘The antioxidant can increase neuronal physiology and brain function’ positive responses(73.3%) are in violet colour and Negative responses(26.7%) are in blue colour.

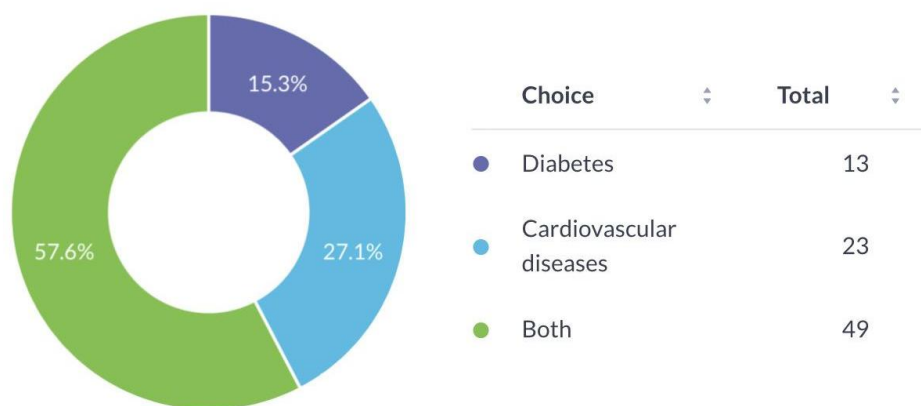


Figure 7: Pie chart shows distribution of study subjects based on the knowledge of the participants that the antioxidant can prevent diabetes and cardiovascular disease. Shows responses for the question ‘Do you think antioxidants can prevent....’ responses for Diabetes(15.3%) are in violet,response for cardiovascular disease(27.1%) are in blue and response for both(57.6%) the disease.

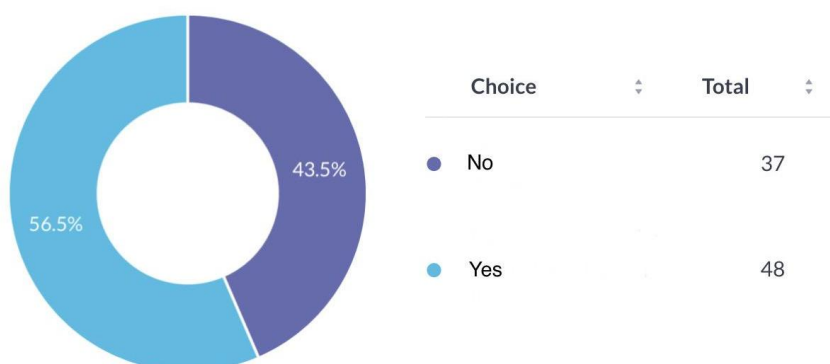


Figure 8: Pie chart shows distribution of study subjects based on the knowledge of participants that the high intake of antioxidants leads to increase the risk of cancer. Shows responses for the question ‘High intake of antioxidant can increase the risk of cancer’ positive responses(56.5%) are in blue and Negative responses(43.5%) are in violet.

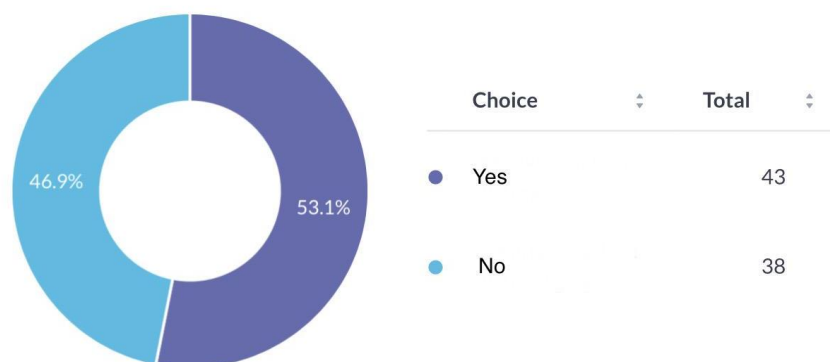


Figure 9: Pie chart shows distribution of study subjects based on the knowledge of participants about the excessive administration of antioxidants can inhibit reactive oxygen species. Shows responses for the question ‘ The excessive administration of antioxidants can inhibit reactive oxygen species’ positive response(53.1%) are in violet and Negative response(46.9%) are in blue.

CONCLUSION:

Majority of the medical professionals were aware about the use of antioxidants when compared to the normal people, but they recommended the use of antioxidants rarely to few patients only. From this survey we can conclude that Awareness about the role of antioxidants in health among medical professionals in the South Indian population.

CONFLICT OF INTEREST - NIL

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