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The health effects of green tea – A survey

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ABSTRACT

Green tea is one of the most consumed beverages worldwide. This beverage has so many health benefits which is known to all, it will reduce the number of diseased individuals drastically. A survey was conducted based on the benefits of green tea to the general public of Chennai. A sample size of 150 was taken and the data was statistically analysed. From the survey, we analyse that only 14% consume green tea, less than 50% of the participants were aware of green tea's health benefits. Green tea consumption improves the antioxidants levels and removes the toxins from the body. The active phytoconstituents present in the green tea protects the people from many chronic diseases and it increases the life span of the human beings. Participants have to be made more aware of the health benefits of green tea. Such awareness can be created by educating people at a younger age at school levels, by advertisements, media and by placing catchy posters in public places.

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INTRODUCTION

One of the most popular beverages which is consumed worldwide is tea (Graham, 1992). There are three different types of tea such as black tea, green tea or oolong tea (Thasleema, 2013). Amongst all these types of tea, green tea has been observed to have the most significant effects on the health of a human being (Cabrera *et al.,* 2006). Green tea contains proteins, carbohydrates, minerals, trace elements and polyphenols. The polyphenol content attributes mainly to the health benefits of consuming green tea (Naghma and Hasan, 2007). The amount of catechins found in green tea is significantly more than in comparison with black tea and oolong tea (Vinson, 2000). In green tea, there are mainly four types of catechins found which are epicatechin, epigallocatechin, epicatechin-3-gallate and epigallocatechin-3-gallate (EGCG) (Sano *et al.,* 2001).

Green tea catechins are responsible for many health benefits. It is an antioxidant (Bhuvaneswari et al., 2014). It provides protection against degenerative diseases of the body, prevents mammary cancer after initiation, prevents hepatotoxicity, and prevents proliferation of hepatoma cells (Vanessa and Gary, 2004). Consumption of green tea has been found to prevent several types of cancer (Ravikumar, 2014) such as stomach, oral, small intestine, oesophagus, colon, lung, pancreas, kidney and mammary glands (Koo Cho, 2004). In Asia, green tea has been known to be effective in treatment of typhoid and diarrhea (McKay and Blumberg, 2002, Lu *et al.,* 2003, Wu *et al.,* 2003). Effects of green tea against Herpes simplex virus, influenza virus (Toda *et al.,* 1989, Mukoyama *et al.,* 1991, Yama et al., 1997), Helicobacter pylori (Takabayashi *et al.,* 2004, Yee et al., 2002) and adenovirus has been observed to be due to the catechins in green tea (Weber *et al.,* 2003). It has been studied that green tea also has a chemopreventive effect amongst cigarette smokers and can also block the increase in the sister chromatid exchange frequency induced by cigarettes (Shim *et al.,* 1995).

It has been found to be useful in insect stings due to it anti-inflammatory effects and capacity to arrest the bleeding (Sagesaka-Mitane, Miwa, Okada, 1998, Dvorakova *et al.,* 1999). It is found to reduce the serum glucose levels in type 2 diabetes (Sabu, Smitha, Kuttan, 2002).

The health benefits of green tea are numerous. There are also side effects of excessive consumption of green tea. It can affect the iron absorption (Samman *et al.,* 2001, Nelson, Poulter, 2004), decreases the zinc absorption and increases the manganese absorption (Deng *et al.,* 1998). Major chronic disorders can be prevented by the consumption of green tea (Zaveri, 2006). When there are options to avoid such disorders with easily available natural source, there must be an awareness of these source to reduce the number of person getting affected by such disorders. The aim of this study is to assess the awareness of green tea, its benefits, and side effects if excessively taken. Accordingly, awareness can be created by posters, banners, camps, etc.

Materials and Methods

A structured format questionnaire containing 12 questions was formed on the topic of benefits of green tea. The questionnaire was administered to the general public of Chennai through survey planet online link. A sample size of 150 participants enrolled in the survey. The participants volunteered to be a part of the survey. The data collected from the participants was statistically analyzed.

RESULTS AND DISCUSSION

This survey comprised a total of 150 participants, out of which 26.7% were within the age group 15-20 years and the rest 73.3% were above 20 years of age. This survey reveals that 77.3% consume tea or coffee with milk while 14% consume green tea, 7.3% black tea and 1.3% consumes oolong tea. When the population was asked if they were aware of normal coffee or tea with milk when consumed can lead to cardiac disorders like arrhythmias, only 29.3% were aware while 70.6% were unaware. From the results of this survey it is come to our knowledge that 64% of the people who attempted this survey were unaware of the side effect of insomnia by coffee or tea with milk and 36% were aware of the side effects caused by coffee or tea with milk. Also from this survey it was known that 52.6% of the participants were aware about the antioxidants presence in green tea, while the rest 47.3% were unaware of it. This survey shows that 64.6% of the participants didn't have the knowledge of the anti-carcinogenic activity of green tea and remaining 35.3% has the knowledge about the anti-carcinogenic activity of green tea. Green tea action in preventing neurological disorders such as Alzheimer's and Parkinson's' disease were aware by 36%, while 64% were unaware, 34.6% were aware of the antimicrobial action of green tea and 65.3% were not aware of the antimicrobial action of green tea. Green tea has the potential to treat diabetes type 2, only 42.6% were aware of this while the rest 57.3% were not aware. This survey also reveals that 78% of the participants who participated in the survey stated that they have become more aware of the health benefits of green tea and also that 74.6% were inspired to start consuming green tea by participating in this survey (Fig 1-5).

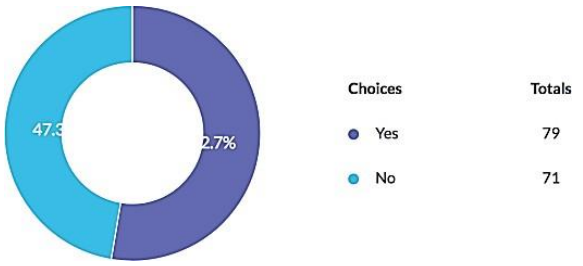

Figure 1: Pie diagram depicts the percentage of people awareness about the cardiac

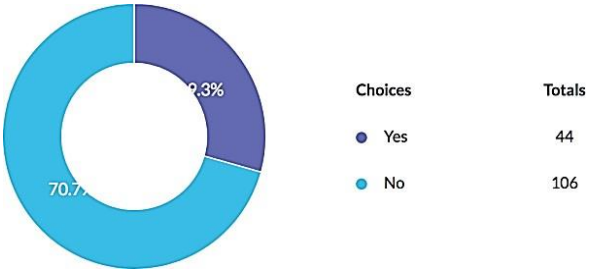

Figure 2: Pie diagram depicts the percentage of people awareness about the ordinary coffee and tea causes insomnia

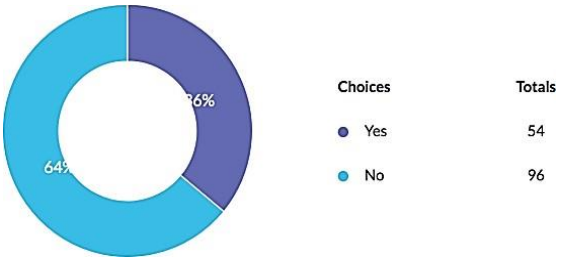

Figure 3: Pie diagram depicts the percentage of people awareness about the green tea rich in antioxi-dants

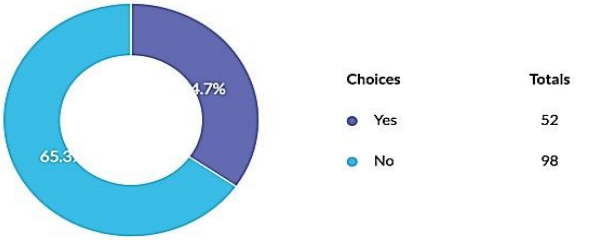

Figure 4: Pie diagram depicts the percentage of people awareness about the anticancer action of green tea

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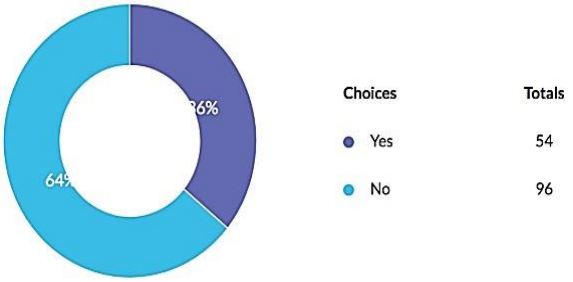

Figure 5: Pie diagram depicts the percentage of people awareness about the green tea prevention against neurological disorders

Coffee and tea with milk has side effects of causing insomnia and arrhythmias and people have not been made aware of these side effects. It is important to assess the knowledge of the people on the side effects of the beverage they consume and educate them on the benefits of a beverage which they are unaware.

CONCLUSION

This survey shows that many people consume coffee and tea with milk, unaware of its side effects. Less than 50% of the participants were aware of the health benefits of green tea. Awareness must be spread to ensure our populations can become a more healthier and happier population and the prevalence of chronic disorders can be reduced drastically. Such awareness can be imparted on a large scale by posters in public places, awareness camps and education of such benefits in schools, colleges and workplaces.

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