

Knowledge and Awareness on the Importance of Tender Coconut Water-A Survey

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ABSTRACT

Tender coconut water is the clear liquid within a young fresh coconut. The benefits of coconut water includes reduced body heat, stomach pain and acts as digestive, applying in hair to promote hair growth. The aim of this study is to assess the knowledge and awareness of people about the importance of tender coconut water. A self-administered questionnaire comprising 10 questions was circulated to 100 people through an online google form. Before the study begins, the study detail was explained to the participants. The sample size of this study was 100. The data was collected and statistically analysed. In this study, 90% of the population were aware that tender coconut water hasn't had any effect on mental health and 10% of the population were unaware of it. Around 86% of the population were aware that tender coconut water contains antioxidant properties and 14% of the population were not aware that it contains antioxidant properties. The overall result was positive, most of them were aware of the importance of tender coconut water. This proves an outright positive result. Through this survey, the majority of people were aware of the importance of tender coconut water.

KEY WORDS: AWARENESS; BENEFITS, IMPORTANCE; POPULAR SPORTS DRINK ; TENDER COCONUT WATER..

INTRODUCTION

Tender coconut water is one of the popular sport drinks. Cold sterilization of tender coconut water was undertaken using hollow fiber ultrafiltration (Campos et al., 1996). The water from the tender coconut has a pleasant sweet taste and is a refreshing drink. The principal inorganic constituent of nut water is potash. Promoting use of

tender nuts as a source of health drinks and nutrition food will open up new opportunities for improving profitability of coconut farming (Reddy, Das and Das, 2005). Coconut water (coconut liquid endosperm), with its many applications, is one of the world's most adaptable natural products. Coconut water is suppressed of many amino acids, nitrogenous compounds, inorganic elements, organic acids, sugars and their alcohols, vitamins, growth substances (Cytokines and auxins) and many other unknown components. Tender coconut water is rich in essential minerals, like, potassium, sodium and natural nutrients, like, polyphenol. Coconut water was evaluated as rehydration fluid in diarrhoea. This refreshing liquor is consumed worldwide as it is nutritious and good for health (Jayanti et al., 2010).

Coconut water is commonly used as a growth supplement in plant tissue culture. Previously our team conducted

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numerous studies and reviews on upcoming topics (Samuel and Devi, 2015; Baheerati and Gayatri Devi, 2018, Fathima and Preetha, 2016, Rj and R, 2016, Harsha et al., 2015, Dave and Preetha, 2016, Shruthi and Preetha, 2018). The broad applications of coconut water can be sustained by its rare chemical composition of sugars, vitamins, minerals, amino acids and phytohormones (Maciel, Oliveira and Silva, 1992). Chemical composition and biological properties of coconut water were extensively studied (Laorko et al., 2017). The biologically pure, tender coconut water helps to compensate fluids, electrolytes (potassium, calcium, and magnesium), and sugars lost from the body during heavy physical exercise. It is used as a blood plasma supplant as it is sterile and readily established by the body (Gajanayaka, no date). Tender coconut water contains excessively efficient against both gram- positive and gram-negative bacteria. The fresh coconut water has a shelf life of about 24 h (Reddy et al., 2005) and that can be enhanced by ultra-high temperature, pasteurization, refrigeration, freezing and microwave heating.

The tender coconut water has a strong tendency to undergo biochemical changes and spoilage, once the nuts are harvested from the tree. The use of coconut water resulted in longer sub-culturing time and the production of highly robust plants which were able to survive in greenhouse conditions. Tender coconut water has significant cardioprotective and antithrombotic effect in rats induced myocardial infarction. Tender coconut water showed potent hepatoprotective and antioxidant effects in carbon tetrachloride (CCl₄)-intoxicated rats. Tender coconut water could inhibit and reverse high blood pressure, standardized antioxidant status and improve insulin sensitivity. Importance of tender coconut water reduces the body heat and stomach pain; acts as digestive; applying in hair to promote hair growth. Previously our team had conducted numerous studies and reviews on upcoming topics (Abigail et al., 2019; David et al., 2019, Choudhari and Jothipriya, 2016, Iyer, Gayatri Devi and Jothi Priya, 2019, Swathy and Gowri Sethu, 2015, R and Sethu, 2018, Timothy, Gayatri Devi and Jothi Priya, 2019). The main aim of the study is to assess the awareness on the importance of tender coconut water among the population.

MATERIAL AND METHODS

A cross-sectional study was conducted with a self-administered questionnaire with a sample size of 100 participants comprising the general population. The questionnaire consists of questions that help in socio economic data, questions that help in providing awareness among the participants and also consist of the questions related to facts. The questionnaire was validated in the standard manner. Measures such as selection of participants randomly, steps to prevent asking irrelevant, placing restrictions over the participants are followed to minimise the sampling bias. The questionnaire was circulated using the online platform Google Forms. Descriptive analysis was carried out using the statistical

software SPSS VERSION 2.0. The results were analyzed and represented in a pie chart.

Figure 1: Pie chart representing the percentage distribution of awareness among study participants regarding that tender coconut water has any effect on mental health. Minority of participants (10%) responded yes (blue), (90%) responded no (red).

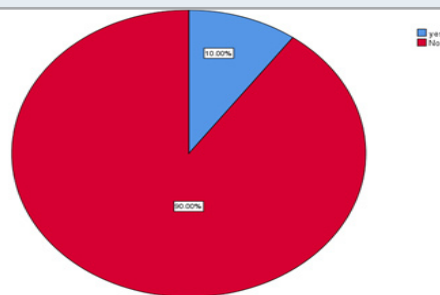


Figure 2: Pie chart representing the percentage distribution of awareness among study participants regarding that tender coconut water has any side effects. Majority of participants (85%) responded no (red) and (15%) responded yes (blue).

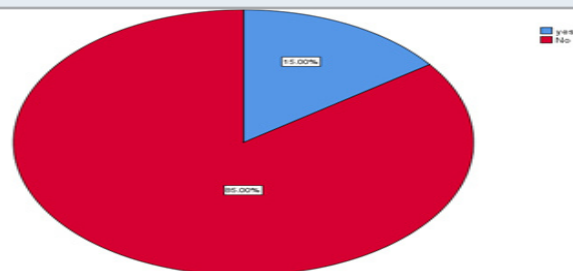
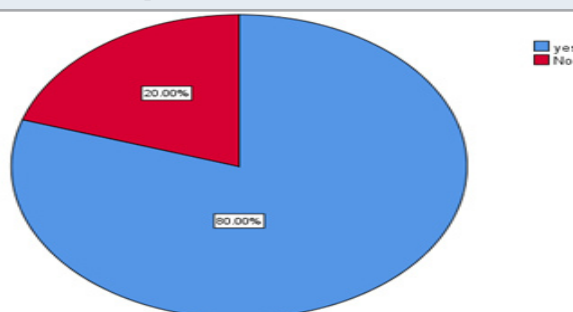


Figure 3: Pie chart representing the percentage distribution of awareness among study participants regarding whether over-drinking of tender coconut water leads to stomach upset. Majority of participants (80%) responded yes (blue) and (20%) responded no (red).



RESULTS AND DISCUSSIONS

In the present scenario, many of them were aware about the importance of tender coconut water. Majority 90% of the survey population were aware that tender coconut water hasn't had any effect on mental health (figure 1).

The similar findings were found in a previous study (Reddy et al., 2018). Around 85% participants were known that tender coconut water hasn't had any side effects (figure 2), which was similar to findings of the previous study (Ramaswamy and F, 2017). Around 80% of people were aware that over-drinking of tender coconut water leads to stomach upset (figure 3) which was similar to the statement proved in the previous study (V, Geetha and Bhavana, 2016). Around 65% of people were aware that the tender coconut water keeps blood pressure at normal range (figure 4) which was homogenous to the existing studies. 98% of the participants were aware that tender coconut water has an important role in blood pressure which was also stated by previous studies (Selvaraj et al., 2019).

Figure 4: Pie chart representing the percentage distribution of awareness among study participants regarding whether tender coconut water keeps blood pressure at normal range. Majority of participants (65%) responded yes (blue), (35%) responded no (red).

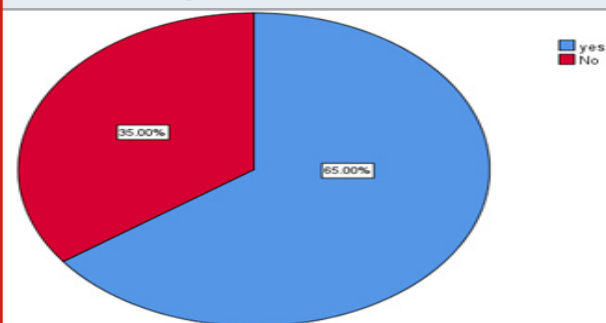
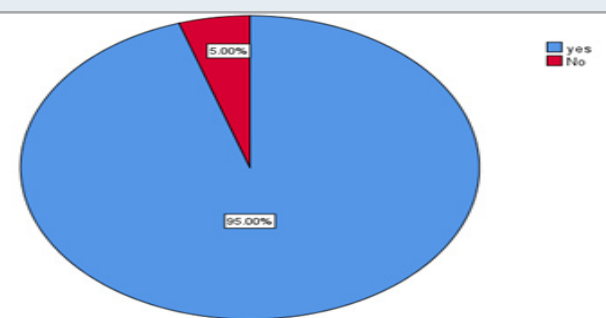


Figure 5: Pie chart representing the percentage distribution of awareness among study participants regarding whether tender coconut water reduced the stomach pain. Majority of participants (95%) responded yes (blue), (5%) responded no (red).



95% of participants were aware that reduced stomach-pain within 10mins (figure 5). which was similar to findings of the previous studies (Delfiya, Aniesrani Delfiya and Thangavel, 2016). 98% of participants were aware that tender coconut water reduced the body heat (figure 6). The similar finding was also found in a previous study (C et al., 2019). Around 70% of the participants were aware that taking tender coconut water in an empty stomach helps in kick-starting the metabolism (figure 7) shown by the previous study (C

et al., 2019; Chutia et al., 2019). 94% of participants were aware that drinking tender coconut water helps in digestion (figure 8) which was proved by previous study (Chattopadhyay et al., 2013). Majority 86% of participants were aware that tender coconut water has antioxidant properties (figure 9), which was similar to the statement proved in the previous study (Prathapan and Rajamohan, 2011).

Figure 6: Pie chart representing the percentage distribution of awareness among study participants regarding whether tender coconut water reduced the body heat. Majority of participants (98%) responded yes (blue), (2%) responded no (red).

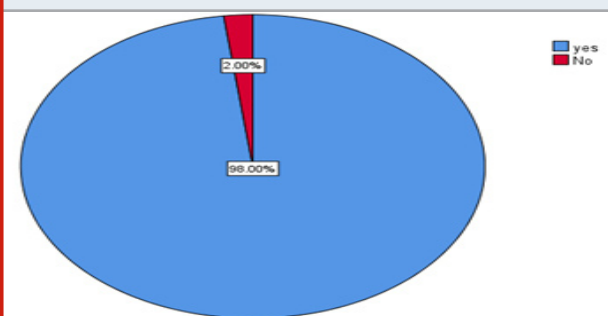


Figure 7: Pie chart representing the percentage distribution of awareness among study participants regarding whether taking tender coconut water in empty stomach helps in kick-starting the metabolism. Majority of participants (70%) responded yes (blue), (30%) responded no (red).

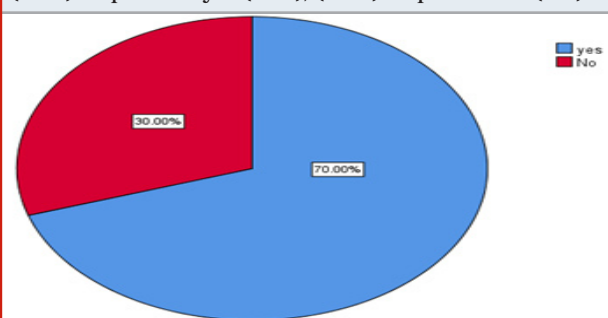


Figure 8: Pie chart representing the percentage distribution of awareness among study participants regarding whether drinking tender coconut water helps in digestion. Majority of participants (94%) responded yes (blue), (6%) responded no (red).

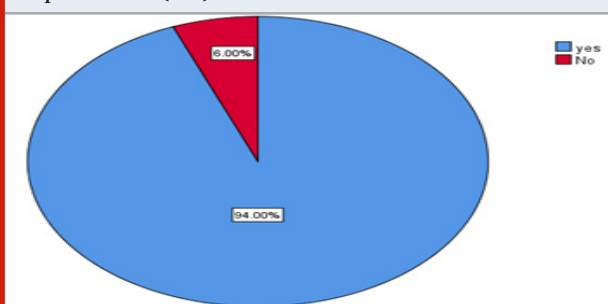


Figure 9: Pie chart representing the percentage distribution of awareness among study participants regarding whether tender coconut water has antioxidant properties. Majority of participants (86%) responded yes (blue), (14%) responded no (red).

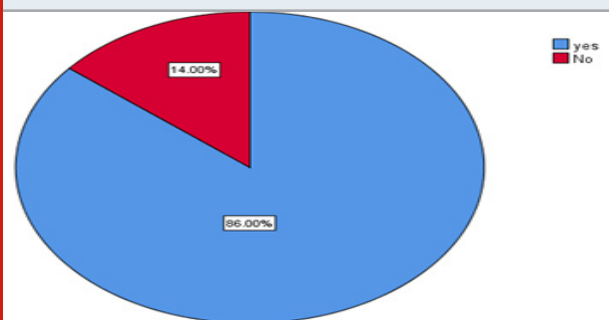


Figure 10: Pie chart representing the percentage distribution of awareness among study participants regarding whether tender coconut water helps to prevent kidney stones. Majority of participants (60%) responded yes (blue), (40%) responded no (red).

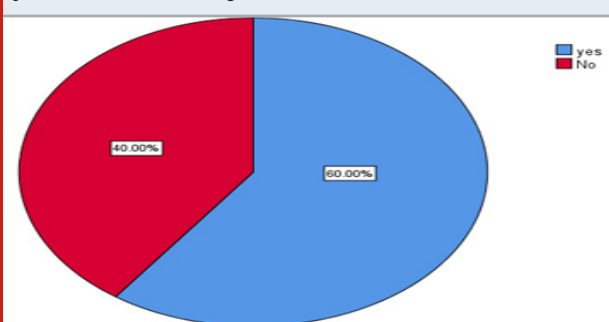
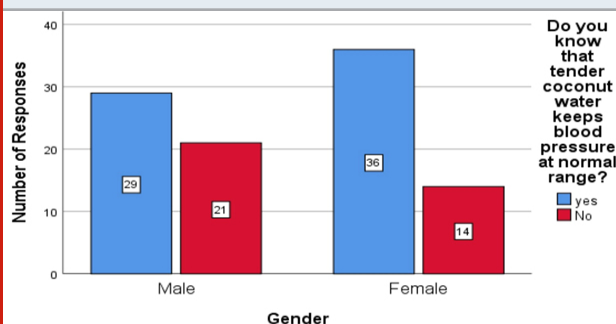


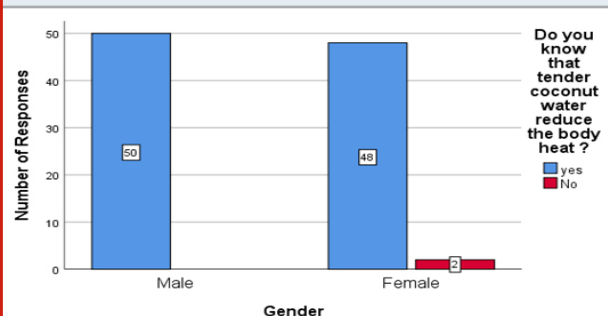
Figure 11: Bar chart represents association between gender and awareness of tender coconut water keeps blood pressure at normal range. X-axis represents gender and Y-axis represents the number of participants who were aware (blue) and not aware (red). Out of 65 participants who were aware, 36 participants constituted females and 29 participants constituted male. Females were more aware than males. Pearson's Chi-Square: 0.826, p value: 0.042 (< 0.05) hence statistically significant.



Around 60% of the participants were aware that tender coconut water helps to prevent kidney stones (figure 10), which was similar to the statement proved in the previous study (Zulaikhah and Wibowo, 2018).

(figure 11). In this study, association between gender and awareness like tender coconut water keeps blood pressure at normal range was done using Chi-Square test. Out of 65% of the participants were aware, females were more aware than males (figure 12). Association between gender and awareness of the tender coconut water reduces the body heat as done using Chi-Square test. Out of 98% of the participants were aware, males were more aware about the tender coconut water reducing the body heat than males. The future scope to assess awareness about the importance of tender coconut water among the population.

Figure 12: Bar chart represents association between gender and awareness of tender coconut water reduces the body heat. X-axis represents gender and Y-axis represents the number of participants who were aware (blue) and not aware (red). Out of 98 participants who were aware, 50 participants constituted males and 48 participants constituted females. Males were more aware than females. Pearson's Chi-Square: 0.826, p value: 0.153 (> 0.05) hence not statistically significant.



CONCLUSION

Based on this survey, it is evident that the majority of the participants were aware about tender coconut water importance. This study may help the people to gain knowledge on tender coconut and they tried to take regularly in order to maintain healthy life

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Conflict of Interest: All the authors declare no conflict of interest in the study.

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