

Consumption of sugar and jaggery among college students

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Abstract : Sugar and sweet consumption have been popular and inherent to Indian culture, ethnicities, and religion from ancient epochs. Sweets and sugar intake has been increasing in all age groups globally, with the greatest increase in populace of young adults. In the young adult's life, college-age years are the critical period where many food habits and practices develop, including nutrition and food choices. In this study, we examined the jaggery and sugar consumption among young adults the college students. The information regarding the preference of sugar and jaggery, reasons for the preference, frequency, quantity, and attitude of sugar/jaggery consumption among college students were collected using the questionnaire in the Google form. Among the 148 students sugar was preferred by 38% of the selected college students, 37% jaggery and 25% preferred both sugar and jaggery. Nearly 57% preferred sugar for the taste and 62% preferred jaggery for health benefits compared to sugar. Around 81% consumed 50g of sugar /day and 62% consumed 40g of jaggery/day. Students attitude shows that the jaggery consumption was good to health (84±2.6) and energetic (42±2.2). Only 2±0.8 students recorded that the consumption of jaggery was sluggish. It was concluded that the consumption of sugar was found to be high among the selected college students and taste was the influencing factor influenced to prefer sugar and jaggery. Imparting knowledge on the recommended allowance of sugar and jaggery will regulate their consumption.

Key words: Consumption, Jaggery, Sugar, Students

INTRODUCTION

The reference of sugar which was supposed to be invented in India can be found from ancient Indian text like “atharva veda”. The sugar was introduced to world after the invasion of Alexander the great in 327BCE, when they found an alternative to honey to sweeten food and described it as a “reed that gives honey without bees. (Gulati and Misra, 2014). Jaggery, a product of sugarcane, is rich in important minerals (calcium: 40–100 mg, magnesium: 70–90 mg, potassium: 1056 mg, phosphorus: 20–90 mg, sodium: 19–30 mg, iron: 10–13 mg, manganese: 0.2–0.5 mg, zinc: 0.2–0.4 mg, copper: 0.1–0.9 mg, and chloride: 5.3 mg per 100 g of jaggery), vitamins (vitamin A: 3.8 mg, vitamin B1: 0.01 mg, vitamin B2: 0.06 mg, vitamin B5: 0.01 mg, vitamin B6: 0.01 mg, vitamin C: 7.00 mg, vitamin D2: 6.50 mg, vitamin E: 111.30 mg, and vitamin PP: 7.00 mg), and protein: 280 mg per 100 g of jaggery, which can be made available to the masses to mitigate the problems of mal nutrition and under nutrition (Rao et al., 2007).

Traditionally any occasion in India is celebrated with intake of sweets. Also it is customary to sweeten the mouth after every meal, any joyous occasion, religious festival and social gathering. The word sugar is derivative of “sarkara” meaning gravel in Sanskrit. The white stuff we know as sugar is sucrose, a molecule composed of 12 atoms of carbon, 22 atoms of hydrogen, and 11 atoms of oxygen (C₁₂H₂₂O₁₁). Like all compounds made from these three elements, sugar is a source of carbohydrate and energy. It provides 4 calories per gram and has no other nutrients. It's found naturally in most plants, but especially in sugarcane and sugar beets—hence their names.

SUGAR AND JAGGERY

Sugar and jaggery are the two most commonly used sweeteners in every Indian household. Sugar comes in the form of white, translucent crystals while jaggery can range from golden brown to dark brown in colour. Both of them are produced using sugarcane juice, but are processed differently. They have different flavours and textures but can substitute each other in various dishes. Sugar does not have a flavour of its own and hence is considered ideal as a sweetener.

Jaggery is a traditional sweetener prepared from sugarcane. Jaggery as a sweetener has useful nutritive components and is said to have various health benefits. Despite having better nutrient composition than refined sugar, use of jaggery appears to have decreased. Mane and Udipi (2015) studied consumption patterns of jaggery and jaggery products in 3 cities in Western state of Maharashtra, India. It was found that majority of the people use sugar on a daily basis as compared to jaggery which they mostly use during festivals or special occasions. Color was the major criteria followed

by shape and texture while choosing jaggery. Families used jaggery in various products, puranpoli being the most popular. 80% families purchase of jaggery for around 50 Rs per month.

METHODOLOGY

The study took place at Coimbatore and the study participants were the students between 20 to 24 years of age pursued their post-graduation. Students who were less than 18 years of age or greater than 24 years of age were excluded. The information regarding the preference of sugar and jaggery, reasons for the preference, frequency, quantity, and attitude of sugar/jaggery consumption among college students were collected using the questionnaire. The questionnaire was framed in Google form and the link was sent to the college students through whatsapp and around 148 students submitted the forms completely. Incomplete forms were excluded from the study. The received responses were analysed using Microsoft Excel sheets and the results were expressed in percentage and mean with standard deviation.

RESULTS AND DISCUSSION

Background information of the subjects

The participants of the present study were the college students undergoing their post-graduation. Among the subjects, 104 participants were female and 44 were male. The preference of sugar and jaggery among the selected college students were given in below table 1.

Table-1

Preference of sugar and jaggery

Items	No of Subjects (148)	
	No	%
Sugar	56	38
Jaggery	55	37
Both Sugar and Jaggery	37	25
Total	148	100

The above table shows that sugar was preferred by 38% of the selected college students, 37% jaggery and 25% preferred both sugar and jaggery.

Intention for preferring sugar and jaggery

The intention for preference of sugar by the students were mostly (57%) for the taste, 28% health benefits and 15% for energy production. The intention for preference of jaggery by the selected students were mostly 62% for health benefits compared to sugar, 31% for the taste and 7% reported that the prefer jaggery as it is available in the natural form. Block et al., (2013) reported in their study that among college students, appetite taste and price were among the top factors when choosing food and beverages.

Quantity and frequency of sugar and jaggery consumption

The quantity of sugar and jaggery consumption varies from one person to another. Majority of the students (81%) consumed 50g of sugar /day and 62% consumed 40g of jaggery/day. The frequency of sugar and jaggery intake per day was depicted in the below table-2

Table-2

Frequency of sugar and jaggery intake per day

Frequency of sugar and jaggery intake per day	No of subjects (n= 148)	
	No	%
Once a day	57	39
Twice a day	57	39
More than two times	34	22
Total	148	100

Added sugars account for almost 270 calories or more than 13% of calories per day in the typical American diet. The major source of added sugars is sugar-sweetened beverages, which include soft drinks, fruit drinks, sweetened coffee and tea, energy/sports drinks, and alcoholic beverages. The US FDA (2015) reports that the sugar-sweetened beverages account for almost half of all added sugars consumed by Americans. Though the consumption of total sugar sweetened beverages is declining, however, current consumption levels among all age groups remain higher than recommended by

health experts. From the above table it was clear that nearly 39% of the selected students reported that the intake of sugar/jaggery was once a day, and 22% consumed more than 2 times a day.

Attitude of students towards consumption of Sugar and Jaggery

The below table-3 shows the attitude of students towards consumption of sugar and jaggery among the selected college students.

Table-3

Attitude of students towards consumption of Sugar and Jaggery

Attitude Parameters	No of subjects (n= 148) Mean \pm SD	
	Sugar	Jaggery
Good to health	23 \pm 2.2	84 \pm 2.6
Energetic	34 \pm 1.2	42 \pm 2.2
Fatigue	8 \pm 1.8	4 \pm 1.6
Sluggish	2 \pm 1.4	2 \pm 0.8

Majority of the selected students attitude shows that the jaggery consumption was good to health (84 \pm 2.6) and energetic (42 \pm 2.2). Nearly 8 \pm 1.8 students attitude reports that the consumption of sugar leads to fatigue. Only 2 \pm 0.8 students recorded that the consumption of jaggery was sluggish.

CONCLUSION

Compared to jaggery, the consumption of sugar was found to be high among the selected college students. Taste was the factor influenced the selected students to prefer sugar and jaggery. Though they knew the benefits of jaggery, knowledge on the recommended allowance of sugar and jaggery will regulate their consumption.

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