"A COMPARATIVE KAP STUDY BETWEEN CONSUMPTION OF TRADITIONAL AND BOTTLED BEVERAGES AMONG ADOLESCENTS (13-15YEARS) OF GOVT SCHOOL,SHAMSHABAD".

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ABSTRACT

Background:
Beverage consumption plays a crucial role in the dietary patterns and health outcomes of adolescents. In recent years, there has been a noticeable shift from traditional, home-prepared beverages to commercially packaged bottled beverages, driven by urbanization, convenience, and marketing influences. Traditional beverages such as buttermilk, ragi malt, rice kanji, coconut water, and lemon water with jaggery are nutritionally rich and culturally significant, whereas bottled beverages often contain high levels of added sugars, caffeine, and additives, which may negatively impact adolescent health.

Aim and objectives:
This study aimed to compare the knowledge, attitudes, and practices (KAP) regarding the consumption of traditional and bottled beverages among adolescents aged 13–15 years studying in a government school in Shamshabad. The objectives were to (1) assess knowledge and attitudes toward traditional and bottled beverages, (2) compare consumption practices in terms of frequency, quantity, and preference, and (3) identify factors influencing beverage choice among adolescents.

Methods:
A school-based cross-sectional study was conducted among 150 adolescents aged 13–15 years. Data were collected using a pre-tested structured questionnaire that included socio-demographic details, awareness, knowledge, perceptions, and consumption patterns of beverages. Descriptive statistics were used to summarize data. Associations between selected variables such as frequency and quantity of beverage consumption, awareness, gender, and grade were analyzed using the chi-square test, with statistical significance set at $p < 0.05$.

Results:
Awareness of bottled beverages was almost universal among respondents, while awareness of traditional beverages was comparatively lower. Most adolescents perceived traditional beverages as healthier and expressed a preference for them; however, their actual consumption was irregular. Bottled beverages were commonly consumed occasionally, with soft drinks being the most frequently consumed type. Taste emerged as the primary factor influencing beverage choice. Significant associations were observed between frequency and quantity of consumption for both traditional and bottled beverages.

Conclusion:
The study reveals a gap between positive attitudes toward traditional beverages and actual consumption practices among adolescents. Strengthening nutrition education, promoting traditional beverages within

schools and communities, and limiting the availability of bottled beverages may support healthier beverage choices in this population.

CHAPTER-1
INTRODUCTION

Beverages are any portable liquid prepared for human consumption . the term is a formula word for 'drink' and encompasses a vast array of options from essential water to stimulating and intoxicating drinks

Beverages play a central role in the daily diet of adolescents and are now recognized as a major determining factor of their overall health status. Beyond simply providing hydration, drinks often contribute a substantial share of adolescents' total energy and sugar intake, with patterns increasingly dominated by sugar-sweetened and commercially produced beverages. Global evidence shows that intakes of sugar-sweetened beverages among children and adolescents have risen markedly over recent decades, in particular in center and excessive earnings families. (Malik et al 2019 , Popkin & Hawkes, 2020)

Beverages are of various types but basically they are divided into two major classes(Lawless & Heymann, 2010)

1.Non Alcoholic and 2. Alcoholic

1.**Non alcoholic beverages** : Drinks that contain little to no alcohol are categorised into this

It includes **refreshing beverages** ,(water ,soft drink,juices,iced tea,lemonade etc…) **stimulating beverages** , (such as tea , coffee, and energy drinks that provide boost in energy) **nourishing beverages** ,(such as milk , dairy alternatives, hot chocolate and protein shakes offer essential nutrients) and **functional beverages** (beverages which are fortified with antioxidants or probiotics and include sports drinks and probiotic drinks ,offering additional health benefits (Corbo et al., 2014)

2. **Alcoholic beverages** : these contain ethanol,a psychoactive substance from fermented plant sources

It includes **fermented beverages** (like beer-from grains,wine - from grapes or fruits,and cider-apple) and **distilled beverage**s (which are first fermented and then distilled to increase alcohol content (examples include whisky ,vodka ,gin ,rum,brandy,tequila and liqueurs)

Non alcoholic beverages can further be divided into two categories based upon their production . they are 1. Traditional beverage and 2. Bottled beverage or commercial beverage

TRADITIONAL BEVERAGES	BOTTLED BEVERAGES
Butter milk	Soft drink
Coconut water	Coca cola
Rice kanji	Pepsi
Ragi malt	Sprite
Lemon water with jaggery	Fanta
Ambali(ragi porridge)	Thumbs up
Pacchi lulus(raw tamarind drink)	Mountain dew
Panakam(jaggery, lemon,cardomom)	7 up
	Packaged juices(tropicana)
	Real fruit juice
	Paper boat juices

	Minute maid
	Energy drinks
	Red bull
	Monster

1.Traditional beverage (Traditional beverage) : Traditional beverage have long been part of global cultures, passed down through generations. These drinks are often made from natural, locally sourced ingredients and have deep cultural and health significance. The following is a look at some Traditional beverage that have been enjoyed for centuries. We'll focus on buttermilk, coconut water, ragi malt, rice kanji, ragi ambali, and lemon water with jaggery.(Tamang et al., 2023)

i.Buttermilk

Buttermilk, often referred to as "Chaas" in India, is a popular drink made by churning curd (yogurt) with water, and sometimes adding spices and herbs like cumin, coriander, and salt for flavor. This refreshing, mildly sour drink is highly consumed in the hot summer months for its cooling and digestive benefits.

In Indian cuisine, buttermilk is a staple during hot weather. It is often served with meals to aid digestion and balance the body's internal heat. It is rich in probiotic content which helps in gut health and digestion . It is also hydrating, and the probiotics and electrolytes help replenish lost nutrients in the body.(Byakika et al., 2024)

ii.Coconut Water

It is a natural water which is found inside the coconut.It has a naturally sweet taste and is one of the most refreshing Traditional beverage in tropical regions.

Widely consumed in countries like India, Thailand, and the Philippines, coconut water is often associated with hydration. Coconut water is a natural electrolyte drink, rich in potassium, magnesium, and sodium, which helps in rehydrating the body. It is low in calories and has anti-inflammatory properties, making it a popular drink after exercise.(Ramírez-Cárdenas et al 2025)

iii. Ragi Malt (Ragi Porridge)

Ragi malt, or ragi porridge, is made from finger millet (ragi), a highly nutritious grain. It is a traditional drink in parts of India, especially in southern regions, and is often served as a breakfast or a health drink. Ragi is considered a superfood in many cultures in India, particularly for its high calcium content and nutritional value. It is often consumed by children, athletes, and elderly people for its strength-building properties.

Ragi is rich in iron, calcium, and fiber, making it an excellent food for bone health, especially for growing children and postmenopausal females . It also helps in controlling blood sugar levels due to its low glycemic index.

iv. Rice Kanji

Rice kanji is a simple, light porridge made by boiling rice in excess water, then straining it to produce a thin, starchy liquid. It is a common drink in South Asia, especially in India, during illness or as an early morning health tonic. In many Asian cultures, rice kanji is seen as a comfort food and is often given to the sick or elderly for its gentle, easy-to-digest nature. Rice water is known for its ability to soothe the stomach, promote hydration, and aid in digestion. It's especially beneficial for recovering from illnesses like diarrhea or for individuals with weak appetites.

v. Ragi Ambali

Ragi ambali is a traditional drink made from fermented ragi flour and water. It is typically served cold and can be sweetened with jaggery or flavored with spices like ginger. A common beverage in rural India, especially in southern states, it is known for its high nutritional value and is often consumed as a breakfast

drink.Similar to ragi malt, ragi ambali is rich in calcium, iron, and fiber. It aids in digestion, provides sustained energy, and helps with bone strength and muscle function.

vi. Lemon Water with Jaggery

Lemon water with jaggery (also known as "Nimbu-Gur Pani") is a refreshing drink commonly consumed in India. It's made by mixing fresh lemon juice with jaggery and water, creating a sweet and tangy beverage .This drink is often enjoyed during summer months, as it provides a refreshing break from the heat and helps replenish lost electrolytes. In some parts of India, it is also consumed as a natural detox drink. Lemon water is rich in vitamin C, which boosts immunity, and jaggery is a natural sweetener with iron,, And additionally allows in blood purification. This drink helps in digestion, detoxifies the liver, and rehydrates the body, especially in hot weather.

2.Bottled beverage (Bottled beverage)

As urbanization has increased and convenience became a priority, Bottled beverage have become a popular category of drinks worldwide. These beverages are mass-produced, commercially packaged, and distributed in bottles, cans, and other containers, providing convenience and a longer shelf life. Bottled beverage include various types of drinks which include soft drinks, bottled water, juices, and ready-to-drink (RTD) like teas and coffees.

Types of Bottled beverage :

i.Flavoured Water

It is the most consumed one .It comes in several varieties..Flavored Water is Infused with natural flavors, like lemon, berry, or cucumber.

ii.Bottled Soft Drinks

Soft drinks, commonly known as sodas are carbonated beverages flavored with various syrups and sweeteners.

Popular brands producing these are Coca-Cola, Pepsi, Sprite, Fanta

colas: Such as Coca-Cola and Pepsi.

Non-Colas: Like Sprite, Fanta, and Mountain Dew.

diet Sodas: Sugar-free sodas like Diet Coke and Diet Pepsi.

iii. Bottled Juices

Bottled juices are a convenient way to consume fruit and vegetable juices without the need to press or extract them at home.

Popular brands producing these are Tropicana, Minute Maid,paperboat etc..

Made entirely from fruit, with no added sugars or artificial ingredients.

Fruit Drink: Often contains added sugars, preservatives, and flavoring.

Cold-Pressed Juices: Juices made using a slow-press technique to retain maximum nutrients.

iv. Sports and Energy Drinks

Sports drinks are formulated to replenish electrolytes and fluids lost during physical activities, while energy drinks provide a quick energy boost due to their caffeine and sugar content.

Popular Brands: Gatorade, Red Bull, Monster (Energy Drinks).

Electrolyte Drinks: For hydration and replenishing lost salts and minerals.

Energy Drinks contain caffeine, sugar, and sometimes vitamins, to give a quick energy boost.

Psychosocial and developmental impact

The impact of beverage consumption play a central role in the daily diet of adolescents and are now recognized as a major determinant of their overall health status. Beyond simply providing hydration, drinks often contribute a substantial share of adolescents' total energy and sugar intake, with patterns increasingly dominated by sugar-sweetened and commercially produced beverages. Global evidence shows that intakes

of sugar-sweetened beverages among children and adolescents have risen markedly over recent decades, especially in middle- and high-income settings.(Okeke et al., 2023)

Beverages and adolescent health

Adolescence is a critical period of growth and development during which dietary habits—including beverage choices—tend to solidify and track into adulthood. Studies across many countries report that carbonated soft drinks, sports drinks, flavored juices, and energy drinks are commonly consumed by adolescents, often in preference to water, milk, or minimally processed traditional beverages. These commercial drinks frequently contain high levels of added sugars, caffeine, and other stimulants, which, when consumed regularly, are associated with excess calorie intake and poor cardiometabolic outcomes. (Okeke et al., 2023)

There is strong epidemiological evidence linking frequent soft drink intake with overweight and obesity among school-going adolescents. A large multicountry analysis found that adolescents who consume soft drinks at least once daily have significantly higher odds of being overweight or obese compared with those who do not. Other studies indicate that sugar-sweetened beverages are major contributors to weight gain, dental caries, and increased risk of type 2 diabetes later in life. Despite some recent declines in sugar-sweetened beverage intake in certain regions, adolescents remain among the highest consumers relative to younger children.

High intake of caffeinated and energy drinks has been associated in some studies with sleep disturbances, attention problems, and risk-taking behaviors, which can interfere with school performance and psychosocial well-being. Beverage choices are also tied to identity, peer norms, and marketing influences, making them a visible symbol of social belonging for many teenagers.(safari et al 2020).

The home and school environments strongly shape these patterns, as availability of sugary drinks at home, limited access to safe drinking water, and unrestricted sale of soft drinks around schools all encourage frequent commercial beverage intake. Socioeconomic status, urbanization, and aggressive advertising further drive preference for packaged and branded drinks over traditional options. These layered influences mean that adolescents may continue to choose unhealthy beverages even when they have some awareness of their negative health effects.(john et al 2019).

Background of the Study

Beverages play a significant role in human nutrition, hydration, and cultural practices, with consumption patterns deeply influenced by socio-economic, geographical, and cultural factors. In India, both traditional and commercially produced beverages hold substantial importance, but the consumption trends among younger populations, particularly adolescents, are undergoing a shift. Traditional beverage such as **buttermilk**, **coconut water**, **ragi malt rice kanji**, and **Ambali (ragi porridge drink)** have long been staples in Indian households, offering a rich variety of flavors and significant health benefits (Byakika et al., 2024; Aribam et al., 2022). These beverages are not only valued for their nutritional content but also for their cultural and regional significance. For instance, **ragi malt** is known for its high calcium and fiber content, beneficial for adolescent bone development (Hlangwani et al., 2025).

However, with the rise of globalization, urbanization, and the proliferation of marketing for **Bottled beverage** such as **soft drinks**, **packaged juices**, and **energy drinks**, there has been a notable shift in consumption patterns, particularly among adolescents. These drinks, characterized by high sugar content, artificial flavors, and preservatives, are increasingly consumed by younger populations, raising concerns about their health implications. Studies have linked the frequent consumption of sugary Bottled beverage to rising rates of **obesity**, **type 2 diabetes**, and **dental cavities** in adolescents (Menya et al., 2019; Zhao et

al., 2025). Bottled beverages, while convenient, have been shown to lack the beneficial properties found in traditional drinks such as antioxidants, probiotics, and essential nutrients (Pinto et al., 2023).

Adolescence is a critical period for developing dietary habits that influence long-term health outcomes. During this stage, individuals undergo significant physical, emotional, and psychological changes, making them more susceptible to external influences such as **peer pressure**, **advertising**, and **social media** (Olson et al., 2022). The food and beverage choices made during adolescence often persist into adulthood, affecting overall well-being. In recent years, adolescents have been increasingly swayed by advertising and marketing strategies that promote Bottled beverage as trendy, fun, and refreshing (Funtua et al., 2016). This has raised concerns about the long-term health effects of high consumption of sugary drinks, including increased risks of obesity, insulin resistance, and metabolic syndrome (Grijalva-Vallejos et al., 2020; Menya et al., 2019).

Despite the growing popularity of bottled drinks, Traditional beverage are still widely consumed in many Indian households, especially in rural and semi-urban areas. For example, **Ambali**, a traditional ragi-based drink, is known for its probiotic properties, contributing to gut health and improving digestion (Tamang & Lama, 2023). Yet, the rapid spread of commercially produced beverages, backed by significant marketing investments, presents a challenge to the continued consumption of these traditional drinks.

This research seeks to explore the **knowledge**, **attitudes**, and **practices** (KAP) related to the consumption of traditional versus Bottled beverage among adolescents in Shamshabad, a semi-urban area near Hyderabad, Telangana. By investigating the factors that influence adolescents' choices between these two beverage categories, this study aims to provide insights into how knowledge, attitudes, and social influences affect beverage consumption, and how this, in turn, influences adolescents' health and well-being.

More information on bottled and Traditional beverage :

Beverages are a crucial part of daily nutrition ,not only providing hydration but also influencing dietary patterns and health outcomes. Among adolescents, beverage choices can have various complications for growth, development, and long-term health. The global shift towards consuming Bottled beverage , especially in sugary soft drinks, energy drinks, and packaged juices, have increased significant public health concerns. These beverages, are widely aimed at younger people who are often associated with poor nutritional quality, high sugar content, and artificial additives, all of which are linked to adverse health outcomes, including obesity, diabetes, and dental problems **(Grijalva-Vallejos et al., 2020; Junaid et al., 2023).**

In contrast, **traditional beverages**, which have been consumed across cultures for centuries, tend to offer a healthier alternative, providing essential nutrients, probiotics, and bioactive compounds that support overall well-being. These include buttermilk, coconut water, ragi malt rice kanji, lemon water with jaggery, and other region-specific drinks that are rich in nutrients like fiber, antioxidants, vitamins, and minerals **(Byakika et al., 2024; Aribam et al., 2022)**. Despite the clear health benefits of traditional beverages, they are increasingly being overshadowed by the global dominance of bottled, mass-produced drinks that prioritize convenience, taste, and branding over nutrition.

This change in dietary patterns is especially pronounced among adolescents (ages 13–15), a critical age group during which many health habits are formed that will persist into adulthood. Adolescents are exposed to a variety of influences that shape their beverage consumption habits, from marketing campaigns promoting bottled drinks to peer pressure and the desire for social acceptance **(Pinto et al., 2023)**. These external factors, combined with a general lack of awareness about the health risks associated with sugary

drinks and the nutritional advantages of traditional beverages, contribute to an increase in bottled beverage consumption, even in regions where traditional drinks have been an integral part of the diet for generations.

The rise in Bottled beverage consumption is particularly problematic in semi-urban and rural areas such as Shamshabad, a town in Telangana, India, where traditional drinks still hold cultural significance. In these regions, Traditional beverage are often seen as inconvenient, old-fashioned, or less fashionable compared to their bottled counterparts, which are more heavily advertised and accessible. This cultural shift away from Traditional beverage , along with the increasing prevalence of bottled drinks, may have significant health implications for local adolescents, contributing to rising rates of obesity, diabetes, and other lifestyle-related diseases **(Sani et al., 2019).**

The issue is further compounded by the lack of comprehensive studies in regions like Shamshabad, where beverage consumption patterns and preferences among adolescents have not been systematically explored. The problem lies not only in the dietary shift towards bottled drinks but also in the misalignment between adolescent knowledge about nutrition and their beverage choices, which needs urgent intervention.

Problems faced :

The transition from to Bottled beverage among adolescents has raised concerns about the long-term health impacts of this dietary shift. Bottled beverages, particularly sugary soft drinks, energy drinks, and packaged juices, are widely consumed by adolescents, largely due to aggressive marketing strategies, social media influences, and perceptions of convenience and taste. However, the growing consumption of these drinks is linked to several health risks, including obesity, diabetes, and tooth decay **(Hlangwani et al., 2025)**. The rising preference for Bottled beverage is especially concerning because adolescents are at a developmental stage where dietary choices can have long-lasting impacts on both their physical health and lifestyle habits.

Traditional beverages, on the other hand, are largely overlooked, despite their numerous health benefits. Beverages like buttermilk, coconut water, ragi malt, and Ambali (ragi porridge drink) have been staples in the diets of adolescents for generations. These drinks offer superior nutritional profiles, providing hydration, essential vitamins, antioxidants, and even probiotics **(Olson et al., 2022)**. Unlike commercial bottled drinks, Traditional beverage are typically low in sugar and free from artificial preservatives, offering a much healthier alternative for adolescents. Despite these benefits, the consumption of Traditional beverage has steadily decreased, as adolescents opt for more commercially marketed and visually appealing bottled drinks.

The problem becomes more acute when considering the cultural shift in beverage preferences. Adolescents, especially in urbanized and semi-urban regions, are more likely to identify with modernity and globalization, both of which are often symbolized by the consumption of bottled beverages. This trend is further reinforced by advertising, peer influence, and the social acceptance associated with consuming branded drinks **(Pinto et al., 2023)**. Conversely, traditional drinks are seen as outdated, often perceived as less "cool" or convenient, and are typically consumed only in specific cultural contexts or within families.

AIM OF THE STUDY:-

To compare the knowledge, attitudes, and practices (KAP) regarding the consumption of traditional and Bottled beverage among adolescents (13-15 years) of GOVT school, Shamshabad.

OBJECTIVES OF THE STUDY :

1. To evaluate knowledge attitude practices toward the consumption of Traditional beverage (e.g., buttermilk, coconut water, ragi malt rice kanji, lemon water with jaggery, Ambali (ragi porridge drink), pacchi pulusu (raw tamarind drink), panakam (jaggery, lemon, cardamom) versus Bottled beverage (e.g., soft drinks, packaged juices, energy drinks).
2. To compare the consumption practices (frequency, quantity, and preference) of traditional and Bottled beverage among the adolescents
3. To identify the factors influencing the choice between traditional and bottled beverage .

CHAPTER – 2
REVIEW OF LITERATURE

REVIEW OF LITERATURE

1. **D.D Joshi , et al (2025)** in their study they identified multiple herbal preparations with bioactive compounds like xanthine oxidase inhibitors , diuretics or uricosuric actions that show

results in reducing uric acid in preclinical models concluded more clinical trials and need to evaluate safety and effectiveness that define appropriate dosing.

2. **E. Hlangwani, et al (2025)** in their study they covered that the traditional production of nutritional and antioxidant composition and commercialisation opportunities and concluded that the marula beer has more attractive nutritional and cultural attributes and has potential as an commercial beverage but requires standardised processing , microbial quality control and development to succeed.

3. Santa D et al (2025) they did a study on health benefits of ethnic fermented foods in this fermented foods they also included about beverages they did a broad review across ethnic fermented foods in which many beverage examples were used synthesizing mechanistic and clinical evidence for health claims like gut microbiota modulation, metabolic effects.they found out that Ethnic fermented foods, including beverages, consistently contain diverse microbes and metabolites that can modulate gut communities, strongest clinical evidence exists for some dairy ferments, with less but promising data for cereal and vegetable ferments.This study matters as it frames Traditional beverage as part of a wider class of functional foods with translational potential.

4. Ramírez-Cárdenas et al (2025) studied on probiotic fermentation of coconut water in this study they did experimental fermentation of coconut water with probiotic strains like lactobacillus and bifidobaterium , enumerating across storage and reviewing contrast household fermentations with commercial probiotic coconut products . They found out that household fermentation shows various indigenous LAB counts ,formulated commercial products can deliver that probiotic strains with stable counts through shelf life when properly formulated and refrigerated, they concluded that Fermented coconut water can be probiotic, but commercial products typically guarantee strain identitification and shelf viability while household variants are more diverse and less predictable.

5. **Z.zhao, et al (2025)** they documented different microbial community structures among beverages and identified key microbes correlated with specific volatile flavour compounds and highlighted which likely derive desirable and undesirable flavour attributes which is useful for standardisation and cutler development.

6. Bhattacharya M and khatun R (2024) they did a narrative review balancing probiotic benefits of fermented Traditional beverage against possible risks like contamination, excessive alcohol in some household ferments, overgrowth risks in immunocompromised people. In this study they found out that While traditional probiotic drinks deliver diverse microbes and metabolites beneficial to gut health, risk mitigation through good hygiene and vulnerable-population guidance is necessary, commercial probiotic products often reduce the risk via validated strains but lose diversity.

7. Bello H et al (2024) they did a study on safety comparison of traditional vs commercial fermented beverages/ drinks in this study they did a Cross-sectional assessment of microbiological contamination of pathogens, coliforms and mycotoxin screening in traditional street-sold fermented beverages vs packaged commercial equivalents across several countries. They found out that Packaged commercial beverages were overwhelmingly meeting safety thresholds and a subset of street-produced traditional drinks showed occasional hygiene lapses like coliforms, sporadic detection of heat-labile pathogens or mycotoxin concerns in raw ingredients, linked to poor water and processing hygiene. The report emphasized on targeted interventions.

8. Gebre T.S et al (2024) they conducted a study on African fermented cereal beverages and their metabolic health benefits in this they did a Review and meta-analysis-style synthesis type of studies that evaluated metabolic markers like glycaemia, lipids after consumption of specific traditional cereal drinks vs control beverages. Their Methods included collating animal and small human trials and metabolic biomarker assays. They found out that many small studies reported improved postprandial glycaemia, modest lipid profile improvements, and enhanced satiety after

consuming traditional fermented cereal drinks compared with sugary commercial beverages ,however, heterogeneity and small sample sizes they limit strong causal claims.

9. Gholamipour-Shirazi A and Mossige E (2024) they did a study on impact of mixing of fermented beverage flavors in this they did an Experimental process engineering study testing how mixing intensity and timing affects volatile release and microbial interactions in small scale fermentations,measured VOCs, pH, and microbial succession. In this they found out Aggressive homogenization reduced microscale niches, lowering volatile diversity and shifting microbial succession toward dominance by a few taxa, gentle mixing or static fermentation preserved more complexity and it also Offers process-level insight into why industrial homogenization often flattens flavor and microbial diversity in commercial beverage

10. Hanna Yumnam et al (2024) in their study they used Human pilot and mouse-model study participants (and mice) consumed a traditional rice-based fermented beverage and the researchers tracked changes in gut microbiota composition (via sequencing) and fecal metabolite profiles, to see functional effects of traditional beverage consumption they found out that the Consumption led to detectable shifts in gut bacterial communities and changes in fecal metabolite patterns in both human and mouse subjects suggesting that Traditional beverage can modulate gut ecology and metabolite output potentially beneficial.

11. Mohammed T et al (2024) did a Multi-regional review on mapping traditional spontaneous methods like household backslopping, malting, saccharification and comparing them to commercial controlled fermentations and stabilized beverage production. Their Methods were literature mapping and comparative tables on microbiota and metabolites, their results demonstrated clear reductions in microbial diversity and dynamic succession where traditional methods are replaced by industrial, pasteurized, or starter-driven processes,noted that some controlled fermentations can reproduce small to desired metabolites but require strain collections that capture native diversity.

12. Mishra T et al (2024) they did a study on hygiene and quality in dairy and plant based fermented drinks in this they did a Survey and lab analysis of hygiene, microbial safety, and quality practices across small scale traditional producers and commercial manufacturers, combined questionnaires, site audits and microbial testing of products.they found out that Commercial facilities consistently met regulatory microbial limits and used pasteurization and quality control, many traditional producers operated without formal hygiene controls but produced beverages with high probiotic counts. The paper recommended targeted training and low-cost interventions to maintain beneficial microbes while preventing contamination.

13. **Stellah byakika, et al (2024)** in their study of contamination of commercial and traditionally prepared bongo they found out that the microbial diversity present in commercially bongo, detected aflatoxin M1 contamination levels were present and they also identified lab strains from indigenous products that could be the starters to improve safety and quality.

14. Touceda-Suárez A. et al (2024) they conducted a study on Traditional fermented fruit beverage (Amazake) vs. commercial fruit-based functional drinks metabolomics in this study they Targeted and non-targeted metabolite profiling of amazake produced with different starter microbes and comparison to fortified commercial drinks in discussion.Amazake contains characteristic saccharide derivatives (isomaltose), peptides and fermentation derived metabolites that differ markedly from fortified commercial functional drinks.

15. Toshika Mishra et al (2024) in their study they Evaluated hygiene practices, sanitation protocols, contamination risks, and quality control in production of fermented dairy- and plant-based beverages both traditional and modern in India and provided guidelines and highlighted critical control points (HACCP) for safe production. Their results Showed that many traditional beverage producers lack proper hygiene protocols, increasing risk of contamination and they

contrasted that with regulated commercial producers who maintain cleanliness and consistency.their is a need for standardization if traditional drinks are to be scaled up safely.

16. Ahansaz N. et al (2023) in their study they talked about the Comparative antimicrobial activity of traditional fermented milk and commercial fermented dairy drinks and they Isolated and did an in-vitro testing of LAB from traditional fermented milks for antimicrobial metabolites ,comparing it with commercial dairy drinks antimicrobial profiles.they found out from LAB that traditional milks frequently produce bacteriocins and organic acids with inhibitory activity against foodborne pathogens, whereas commercial products may show antimicrobial effects only when specific bacteriocin producing starter strains are present or when preservatives are used.Traditional fermented milks are important sources of natural antimicrobials, harnessing these strains could improve food safety and preservation in commercial products.

17. **Berhanu et al (2023)** conducted a study on health impacts of traditional Ethiopian tej vs commercial malt based beer in this study they studied about chemical microbial and proximate analysis of tej samples to document alcohol levels , residual sugars , microbial loads ,presence of volatile compounds in this they found out that tej typically shows variable alcohol , variable microbial communities and occasionally higher levels of undesirable volatile hygiene concerns when produced under uncontrollable conditions. Health impacts discussed included variability in alcohol dose exposure and potential contamination risk in home made which is traditional and standardised commercial beers.

18. Chanchal et al (2023) Reviewed popular plant-based fermented foods and beverages in India, summarizing their nutritional, functional and therapeutic attributes like fiber, phytonutrients, antioxidants, vitamins, minerals, probiotic potential. They in their study found that Traditional fermented drinks in India cereal, legume, or plant-based have varied bioactive content, beneficial microbes, and potential health benefits and the review notes these drinks may help in nutrition, gut health, and disease prevention.

19. Escobar-Beiza N. et al (2023) in their study they studied about Comparative Antioxidant Activity in Wild-Fermented Berry Juice vs Commercial Smoothies they Measured total phenolic content and antioxidant activity before and after fermentation, and compared with processed or commercial fruit products.they found out that Fermentation can increase release/biotransformation of bound phenolics and often increase some antioxidant measures vs the unfermented fruit, many commercial smoothies diffrentiate and can have lower bioactive levels due to processing and added sugars Wild fermentation may enhance certain antioxidant properties relative to some commercial smoothies, but results are fruit- and method-dependent

20. Ferremi Leali N. et al (2023) in their study they studied about Physicochemical properties of traditional fermented apple cider vs. commercial hard cider they did GC-MS volatile profiling and physicochemical measures of ciders fermented with different yeasts and compared characteristics relevant to artisan vs industrial products.they found out that Different yeast strains and fermentation regimes produce markedly different profiles of alcohols, esters and fatty acids ,artisan ciders often show greater volatile complexity and variability, while commercial hard ciders are more standardized for ethanol, acidity and clarity.

21. Junaid M. et al (2023) they studied about Nutritional comparison of traditional fermented milk (Laban) and commercial yogurt drinks and Proximated analysis, microbial counts and sensory testing comparing traditional laban with commercial yogurt drinks and found that Laban and similar traditional fermented milks provide comparable macronutrients, traditional products often have higher native live culture diversity whereas commercial yogurts offer consistent nutrient labels and regulated microbial counts. Sensory differences reflect strain composition and processing.Nutritionally similar overall, but laban often contains a more diverse indigenous microbiota whereas commercial yogurt drinks prioritize standardization

22. Łopusiewicz Ł. et al (2023) in their study about Comparison of homemade and commercial plant-based drinks fermented with yogurt starter Reviewed comparisons of nutrient composition, microbial content and bioactive changes in fermented soy milks vs commercial soy beverages. Found out that Fermentation increases free amino acids, bioavailable isoflavone aglycones and beneficial microbes in homemade fermented soy milk, many commercial soy drinks are pasteurised or stabilized and contain fewer live cultures though they provide stable nutrient labels.Fermentation enhances soy bioavailability and microbial content commercial drinks trade microbial activity for shelf-stable consistency

23. Lucy Simon (2023) in their article they talked about Traditional fermented pineapple beverage (Tepache) vs. commercial fruit-flavored sodas: bioactive content and they did a study on Descriptive and compositional reporting on traditional tepache (fermented pineapple with spices) and marketized ready-to-drink versions, general comparisons to commercial sodas nutrient/sugar content they found out that Tepache retains fruit-derived micronutrients, low alcohol and fermentation metabolites and tends to have less added artificial flavoring than sodas, commercial sodas typically contain negligible bioactives and high added sugars.Traditional tepache were found offers more natural fruit-derived bioactives and fermentation metabolites compared with typical fruit-flavored sodas, though commercial tepache products vary by brand and formulation.

24. Okeke et al (2023) they studied on the consumer acceptance of traditional vs commercial fermented drinks in this they did a Cross-cultural sensory and survey study measuring liking and perceived healthiness for panels of consumers tasting traditional fermented beverages versus commercial analogues. Methods included trained sensory panels and consumer hedonic scaling plus demographic analysis.They found that Traditional beverage scored highly among older or rural consumers who value authenticity , younger and urban consumers leaned toward commercial products for convenience and perceived consistency. Education about health benefits increased willingness to try traditional drinks among younger consumers

25. Pinto T. et al (2023) they compared consumer acceptance of traditional fermented fruit beverages and commercial fruit juices and they used sensory evaluation methods and demographic analysis and found that Acceptance is strongly influenced by familiarity, age and urban vs rural background Traditional beverage score higher with local consumers, while commercial juices score higher with convenience seeking, younger urban consumers. Processing, sweetness and labeling also strongly affected the acceptance.

26. Patra. M et al (2023) their study was about the review of functional beverages from cereal grains they did a comprehensive review of cereal derived functional beverages including production methods, bioactive composition, and commercial product development they Compared traditional spontaneous ferments with industrial RTD cereal drinks.they found out that Traditional products routinely had higher levels of fermented derived metabolites like organic acids, some phenolic derivatives and live microbes, commercial RTD products emphasized clarity, consistency and shelf life, often at the cost of live cultures and some bioactive content. The review also catalogued fortification strategies which were used by industry to recoup nutritional value.

27. Singh M et al (2023) they did a study on Comparative Antioxidant Properties of Fermented vs Commercial Fruit drinks / beverages they did an Analytical lab study measuring total phenolic content, DPPH/FRAP antioxidant assays and metabolite profiling in fermented berry juices and commercial smoothies/juices and found out that Fermented berry juices often showed higher measures of certain antioxidant activities and increased extractable phenolics than some processed smoothies, though results varied with fruit and fermentation strain.

28. Souvik Das & Jyoti Prakash Tamang (2023) they did a Empirical study on tracking fermentation dynamics like microbial succession, physicochemical changes in naturally fermented palm based beverages from tribal or rural communities in West Bengal and Jharkhand Their study

documented that the native microbes involved, changes in acidity, alcohol and other fermentation by-products over time shedded light on how traditional palm-based beverages develop under spontaneous fermentation in Indian contexts. This study Offers a detailed, region-specific example of traditional Indian beverage fermentation.

29. S.Das et al (2023) studied on Metagenomics and metabolomics of Toddy which is an Indian palm sap drink in this study they identified complex microbial communities and diverse the metabolites including organic acids,volatiles and sugar-derivatives which are first comprehensive omics characterization of Indian toddy reported this study gave an Omics evidence that traditional toddy has a complex biochemical signature distinct from distilled or/ and industrial spirits.

30. **Aribam Indira, et al (2022)** conducted a study on comparative assessment of antioxidant potential of bamboo leaves along with some locally and commercially consumed beverages in India they found out that bamboo leaves exhibited significant antioxidant potential in some assays comparatively to or slightly lower than Assam green tea suggesting that bamboo leaves may be alternatively or comparatively to commercial teas.

31. Nejati F. et al (2022) in their study Traditional Grain-Based vs. Commercial Milk Kefirs how different are they ? TheyEmployed next-generation sequencing to profile LAB communities in traditional fermented milks and commercial products.and found out that Traditional fermented milks often have higher species richness and harbor taxa like L. kefiranofaciens, L. kefiri and diverse co-occurring species commercial products are typically dominated by a limited set of industrial starter strains like Lactococcus, S.thermophilus. Traditional fermented milks are reservoirs of Lactobacillus diversity that differ markedly from industrial starter , these differences matter for flavor and potential health effects.

32. Olson DW et al (2022) in their study they reviewed probiotic survival strategies and reported primary research comparing viability in freshly made yogurt and commercial probiotic beverages over shelf life. They found out that fresh traditional yogurt drinks often start with higher and more diverse viable count but can decline rapidly depending upon storage , commercial probiotic product typically contains labelled strains formulated for predictably and shelf life stability. Traditional drinks can deliver diverse health Beni fits but they lack due to their shelf life stability.

33. Sukanya Hembrom et al (2022) in their study of The Microbiology and Traditional State of Fermented Beverage Handia which is a review based study in this they Reviewed compiling ethnographic descriptions, microbiological reports and processing steps for Handia (rice beer) summarizes plants used as bakhar, microbial agents and safety notes and found out that Handia relies on amylolytic plant starters and diverse wild yeast or LAB communities and traditional claims partially corroborated by microbiological evidence.

34. Campo et al (2021) studied on the Sensory evaluation of traditional fermented grape juice vs commercial wine spritzers. They used sensory science literature comparing traditionally produced grape drinks with mass wine market products using descriptive analysis and consumer hedonic tests . They found that traditional grape beverages have scored higher for ‘authenticity’, complex aroma and mouthfeel in trained panels , commercial spritzers score higher for uniformity, refreshment and broad consumer liking, especially among younger people. Sensory differences are substantial and consumer preference depends on familiarity, context and labels or prices traditional grape products often have richer complexity while spritzers trade complexity for mass appeal or feel

35. Djeni TN et al(2020) in their study Microbial diversity and metabolite profiles of palm wine they Combined metagenomics and metabolomics to profile microbes and metabolites in palm wine from several palm species compared to distilled commercial spirits which are microbiologically inert.they found that Palm wine contains complex co-existing yeasts and bacteria that may drive flavor and metabolites, industrial distilled spirits lack live microbes and have consistent ethanol

content which can leas to differences in microbiological attributes, flavor complexity and safety considerations.

36. Taniguchi M. et al (2021) in their study they used SPME-GC-MS and other volatile profiling techniques to compare the aroma of compounds across artisanal and industrial sake samples and during aging.they found out that artisanal sake typically showed greater volatile complexity (esters, higher alcohols, sulfur compounds)which was influenced by rice type, koji and yeast strains, where as mass-produced sake tends to have more consistent but less variable aroma fingerprints.

37. Grijalva-Vallejos N. et al (2020) they studied about Flavor development in traditional Chicha vs. industrial cereal-based fermented beverages they Isolated and characterized yeast strains from artisanal chichas and profiled their fermentative and flavor-forming capacities and found out that Yeasts isolated from chicha produced distinct esters and higher alcohols that contribute to traditional chicha aroma many of these strains differ from the yeasts used in industrial cereal fermentations, explaining sensory differences.Chicha's characteristic flavor is driven by indigenous yeast communities that generate esters and volatile compounds not typically found in industrial cereal-based products.

38. **H. Demir et al(2020)** conducted a study on comparison of traditional and commercial production of Kefir . They compared microbial composition of traditional- home made and commercial kefir products using culture based and molecular methods , tested inhibitory effect against selected pathogens. They found out that traditional kefir showed higher microbial diversity-)multiple Lactobacillus, Lactococcus, Leuconostoc species and diverse yeasts) compared with commercial products that had simpler dominated starter chains whereas traditional kefir often exhibited stronger inhibitory activity against some pathogens attributed to diverse LAB metabolites.

39. Habschied K. 2020 review on beer polyphenol they did a comparative study on Traditional fermented wheat beer also known as Khar vs. commercial wheat-based soft drinks and their polyphenol levels in their study they Measured total polyphenol content (TPC) and characterized phenolic profiles in traditional wheat beers and compared them to commercial pale soft drinks made from wheat derivatives they found that Traditional wheat beers and beers brewed which are pigmented with cereals or added botanicals typically show higher TPC and antioxidant capacity than industrial wheat-based soft drinks which are usually non-fermented and low in polyphenols. So we can conclude that Traditional wheat beers generally contain more polyphenols and associated antioxidant activity than many commercial wheat-based soft drinks or sodas.

40. **J.Rizo , et al (2020)** conducted a study about omics in traditional vegetable fermented foods and beverages in this study they demonstrated that omic tools reveal detailed microbial consumption , fermentation dynamics and metabolite profiles recommended integrated omic approaches to improve quality control safety and valorisation of traditionally fermented products.

41. **A.M.sani et al (2019)** conducted a study on traditionally made milk based beverages in different countries in their study they studied about different milk beverages worldwide like yogurt , kefir ,koumiss, chal, amasi, etc… production methods , microbial ecology , nutritional value and cultural context and summarised that the diversity of fermented milk , their functional and nutritional roles (probiotic nutrient) and highlights knowledge gaps in standardisation and commercialisation.

42. **D.menya et al (2019)** conducted a study on traditional and commercial alcohols and esophageal cancer risk in Kenya and found that consumption of some traditional drinks especially changaa was associated with a markedly increased risk of oesophageal cancer contributing to cancer burden in the study area , the work also highlighted public health implications of unregulated alcohol consumption.

43. Joshita Lamba et al (2018-19)they studied about lactic acid bacteria content in traditional fermented Indian drink: Kanji in this study they prepared Kanji from black-carrot, water, spices and under controlled fermentation, then analyzed for pH, titratable acidity, total plate counts, LAB (lactic acid bacteria), yeast and mold counts, and effects of salt concentration and storage temperature on microbial viability. They found out that With 8% salt concentration and optimal conditions, final LAB counts reached 8.29 log CFU/ml at pH 3.84 acceptable microbial levels maintained from fermentation day 6 up to 30 days, indicating good probiotic viability and stable acidity.

44. S. Kaur et al (2018) they Developed a whey and fruit-juice based fermented beverage (India) and studied fermentation parameters, carbonation (natural), microbial counts, and shelf-life and stability in their results they demonstrated feasibility of producing a naturally carbonated fermented beverage in Indian context, nutritional and microbial characteristics indicated potential as functional drink alternative.

45. Joshita Lamba et al (2018-19)they studied about lactic acid bacteria content in traditional fermented Indian drink: Kanji in this study they prepared Kanji from black-carrot, water, spices and under controlled fermentation, then analyzed for pH, titratable acidity, total plate counts, LAB (lactic acid bacteria), yeast and mold counts, and effects of salt concentration and storage temperature on microbial viability. They found out that With 8% salt concentration and optimal conditions, final LAB counts reached 8.29 log CFU/ml at pH 3.84 acceptable microbial levels maintained from fermentation day 6 up to 30 days, indicating good probiotic viability and stable acidity.

46. **Sirajo Mohammed Funtua, et al (2016)** conducted a study of review on safety and quality issues associated with Traditional beverage in this study they reported the detection of hazards like ochratoxin A, bacillus spp ,etc… links them to poor hygiene or processing and recommends training , starter culture use , post harvest handling and monitoring to improve safety and enable safe commercialisation

47. **M.R.Cobro, et al (2014)** in their study of functional beverages an emerging side of functional foods commercial trends , research and health implications they gave a broad review on the functional beverage sector and commercial market trends , bioactive ingredients, regulatory and health effect evidence and found out that functional (traditional) beverages are one of the fastest growing functional food category many products claim Health benefits but lack clinical evidence and consistent regulations are still limited which a calling or indication for more targeted research and clearer labelling standards.

48. **Solange, et al (2014)** conducted a study on African traditional cereal beverages they worked on compiling traditional cereal based beverages across African regions about the raw materials , fermentation processes , socio economic roles , nutritional composition, safety issue and commercial potential. Their result highlights the nutritional benefits and cultural importance of cereal beverages, notes variability of processes and microbial and mycotoxin hazards and points to opportunities for improved processing , starter culture and commercialisation.

49. Jinnie J , et al (2012) in their study Association between commercial and traditional SSB beverages and measures of adiposity in Costa Rica in this study they found different association between types of ssbs and adiposity measures providing evidence which links ssbs and adiposity in Costa Rica population.

50. **T. H. Gadaga , et al (2000)** conducted a study on traditionally fermented foods and beverages of Zimbabwe in this study they gave a review on describing Zimbabweian Traditional beverage ; types , production ,microbiology,nutrition and functional aspects and research gaps. They found out many locally important fermented products like mahewu, masvusvu, mangisi,

doro.outling their microbiology and processing and recommended more research in standardisation , safety and potential probiotic identification for commercialisation.

CHAPTER-3
METHODOLOGY

Study Design: Comparative KAP Survey

The study is designed as a **Comparative KAP (Knowledge, Attitude, and Practice) Survey**, which aims to evaluate the knowledge, attitudes, and practices of adolescents aged 13-15 years in schools located in **Shamshabad, Telangana**. This survey will compare different groups within the population based on their responses to assess differences in knowledge, attitude, and behavioral practices related to a specific topic (e.g., health, nutrition, education, etc.).

Study Details

Study Area: Schools in **Shamshabad**, Telangana
Shamshabad is a suburban area located near Hyderabad, Telangana. It is important to note the socio-economic, cultural, and educational context of the area to better interpret the results of the survey.

STUDY POPULATION : Adolescents aged 13-15 years
This age group represents the stage of early adolescence, where individuals are undergoing significant developmental changes, both physically and mentally. Their knowledge, attitudes, and practices could have a significant influence on future health and behavior trends.
STUDY PERIOD: 3 months
The study will be conducted over a period of three months, providing adequate time for participant recruitment, data collection, and preliminary analysis.

SAMPLE SIZE :150

SAMPLE SIZE CALCULATION: To calculate the sample size for a study with a population of adolescents aged 13-15 years in schools in Shamshabad, Telangana, we can use a standard sample size calculation formula for surveys that are estimating proportions (like KAP surveys).The formula used for calculating sample size when estimating a proportion is

Sample Size Formula: n = Z^2. p. (1 - p)/{E^2}

Where:

- n = required sample size
- Z = Z-score, which corresponds to the confidence level (typically 1.96 for a 95% confidence level)
- p = estimated proportion of the population (we assume a proportion of 0.5 when no prior estimate is available, as this maximizes the sample size)
- E = margin of error

Step-by-Step Calculation:

1. Z-score (for 95% confidence level):
For a 95% confidence level, the Z-score is 1.96.
2. Proportion (p):
If you don't have an estimate for the proportion (p), you typically use p = 0.5 (50%) because this maximizes the sample size and provides a conservative estimate.
3. Margin of Error (E):
The margin of error is the level of precision you are comfortable with. For most social science studies, a 8% margin of error (E = 0.08) is typical.
4. $n=(0.08)2(1.96)2\cdot\ 0.5\cdot\ (1-0.5)$

SAMPLING TECHNIQUE : Simple Random Sampling
Simple random sampling will be used to ensure that every adolescent in the study area has an equal chance of being selected, reducing selection bias and enhancing the representativeness of the sample.

INCLUSION CRITERIA :

- Adolescents aged 13-15 years attending schools in Shamshabad, Telangana.
- Adolescents who are willing to voluntarily participate and provide informed consent.

EXCLUSION CRITERIA:

- Adolescents with medical dietary restrictions that would limit their participation (e.g., adolescents with specific medical conditions like diabetes or food allergies that could affect their ability to respond to dietary-related questions)
- Children below 13 years and above 15 years: As the study focuses on adolescents within a specific age group, children outside this range will be excluded to maintain the relevance of the data.

DATA COLLECTION TOOL& METHOD

Data Collection Tool: **Structured Questionnaire**
The structured questionnaire will be designed to capture comprehensive information on the adolescents' **Knowledge**, **Attitudes**, and **Practices** related to the specific research topic.
It will contain both **closed-ended** questions (e.g., multiple choice, yes/no) for quantitative data and **open-ended** questions for qualitative insights.
The questionnaire will be pre-tested in a pilot study to ensure clarity and relevance.

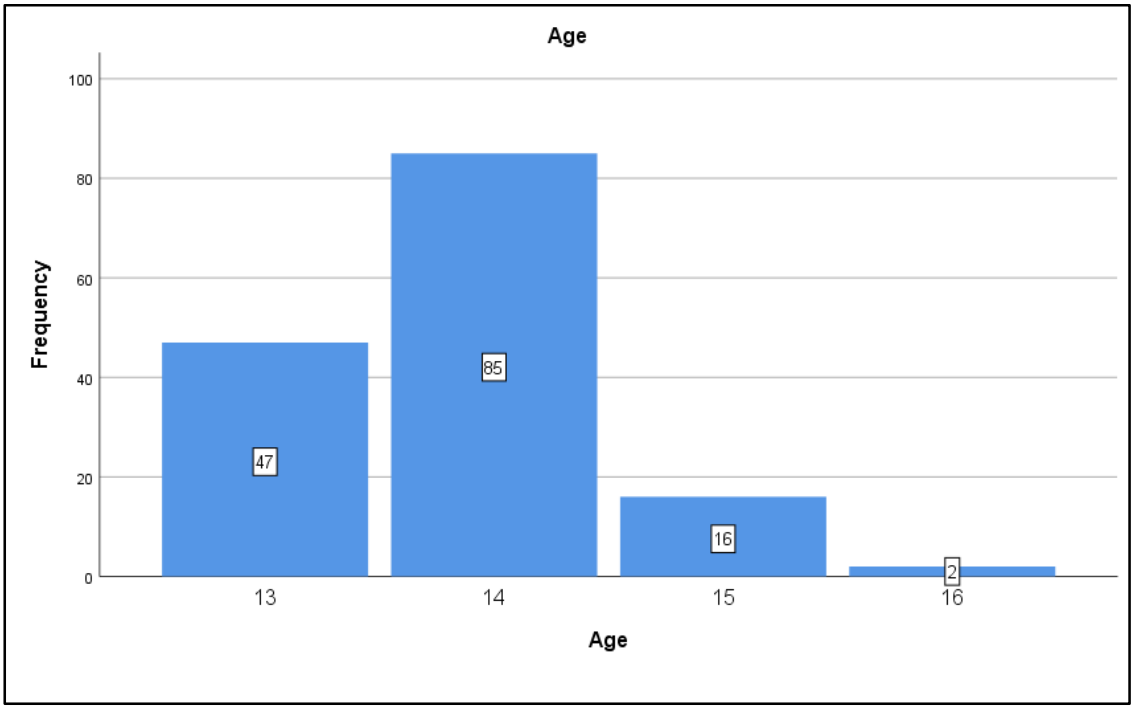
Data Collection Method: **Self-administered Questionnaire (Researcher-assisted)**
The adolescents will fill out the questionnaire themselves, but a researcher will be available to assist with any questions or clarifications, ensuring that the students understand the content and can accurately complete it.
This approach minimizes interviewer bias, as the adolescents themselves will provide the data, while also ensuring that they have access to support when needed.

CHAPTER-4
RESULTS & DISCUSSION

Table 1: Descriptive analysis of Age (years) in the study population (N=87)

Age	Frequency	Percent
13	47	31.3
14	85	56.7
15	16	10.7
16	2	1.3
Total	150	100.0

Figure 1 : Graph for age parameter in study population (N=150)

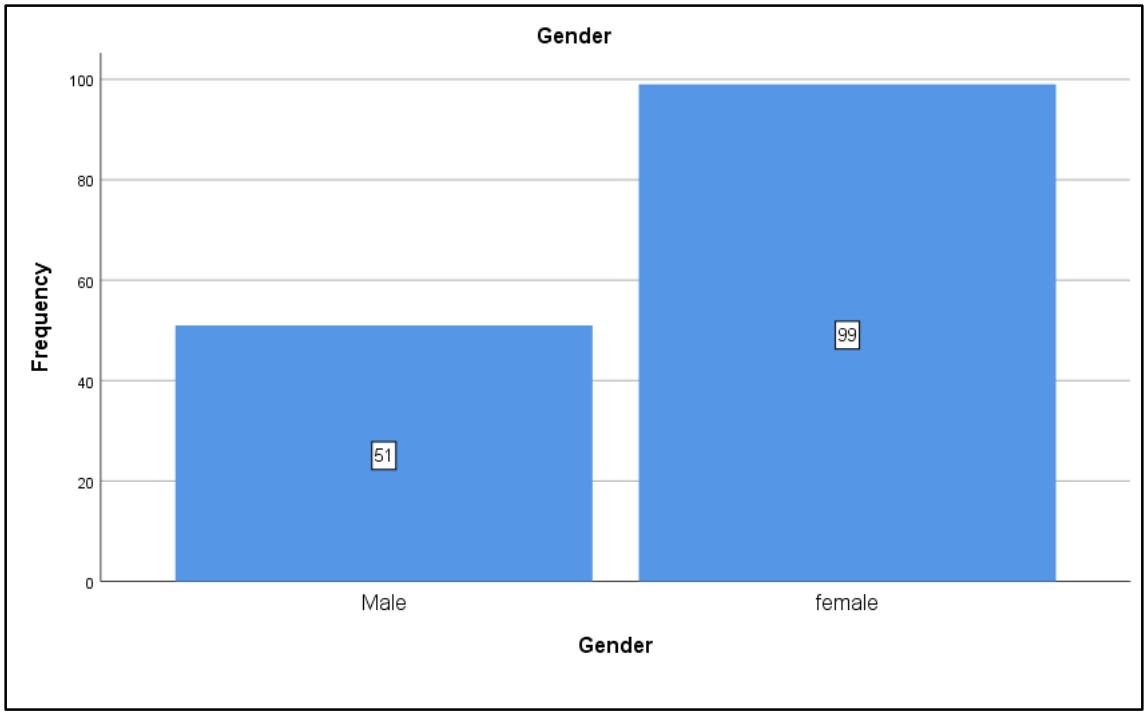


Age: The descriptive analysis from the Table 1 reveals the age group in years of the study population, consisting of 150 adolescent girls and boys . Among them the 31.3% were 13 years old , 56.7% were of 14 years ,10.7% were of 15 years and 1.3% were of 16 years.This indicates that the sample mainly represents adolescents especially students around 13-14 years of age.

Table 2: Descriptive analysis of Gender in the study population (N=150)

Gender	Frequency	Percent
Male	51	34.0
female	99	66.0
Total	150	100.0

Figure 2: Bar Chart for gender parameter in the study population (N=150)

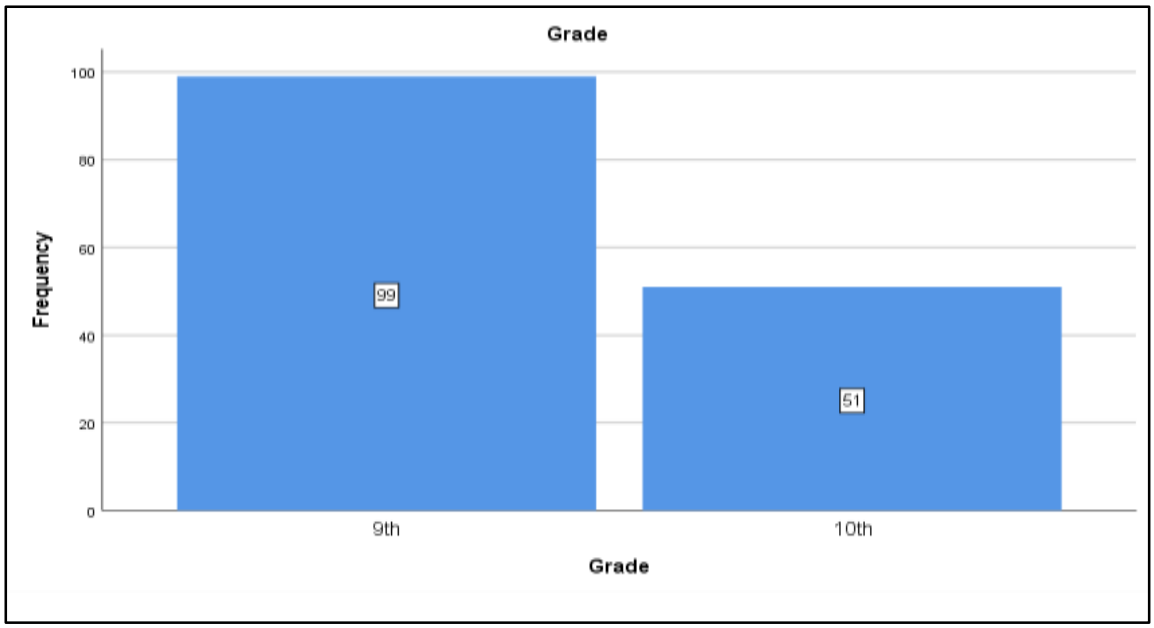


GENDER : The descriptive analysis from the Table 2 reveals the gender of the study population, consisting of 150 adolescent girls and boys. Among them 66% were girls and 34% were boys

Table 3 : Descriptive analysis of class/grade in the study population (N=150)

Grade	Frequency	Percent
9th	99	66.0
10th	51	34.0
Total	150	100.0

Figure 3: Bar Chart for class/grade in the study population (N=150)



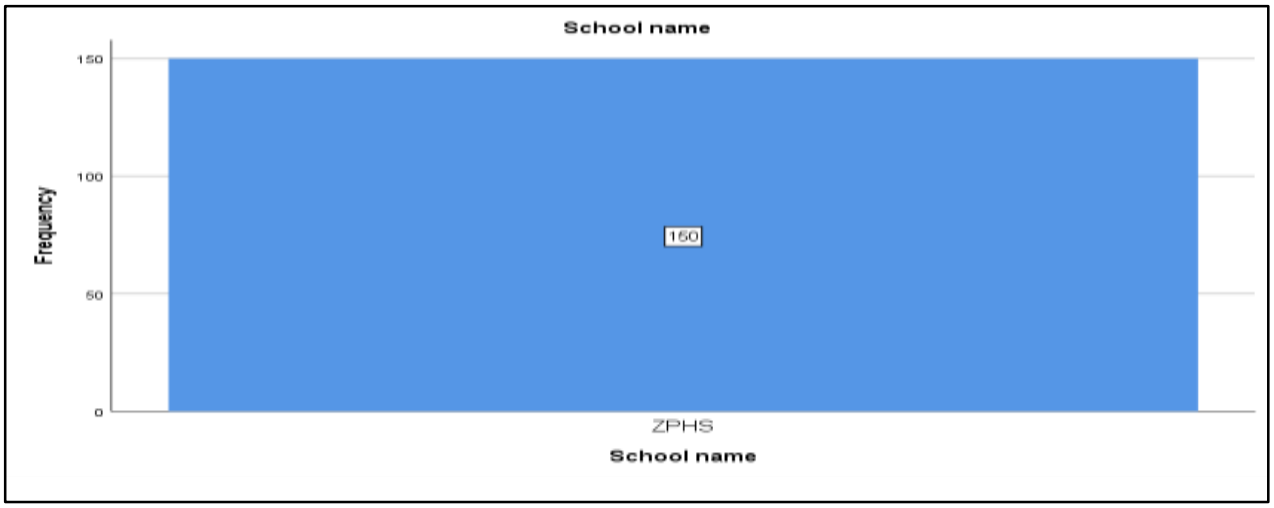
Class:

The descriptive analysis from Table 3 shows the grade-wise distribution of respondents. 66% of the students were studying in 9th class , while 34% were in 10th class . This indicates that a larger proportion of the study population belonged to the 9th standard.

Table 4: Descriptive analysis of School-wise Distribution in the study population (N=150).

School name	Frequency	Percent
ZPHS	150	100.0

Figure 4: Bar Chart for School-wise Distribution in the study population (N=150)



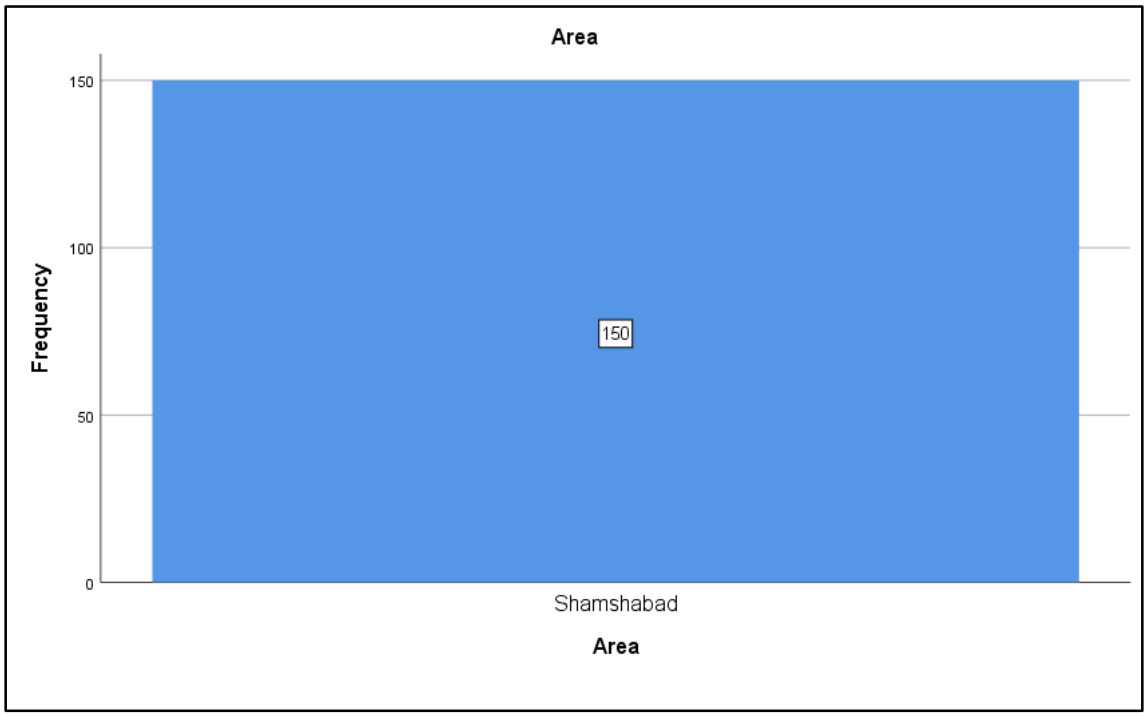
School:

The descriptive analysis from Table 4 indicates that 100% of the students belonged to ZPHS (govt) school. This shows that the study was conducted in a single school setting.

Table 5: Descriptive analysis of Area-wise Distribution in the study population (N=150)

Area	Frequency	Percent
Shamshabad	150	100.0

Figure 5 : Bar Chart for Area-wise Distribution in the study population (N=150)



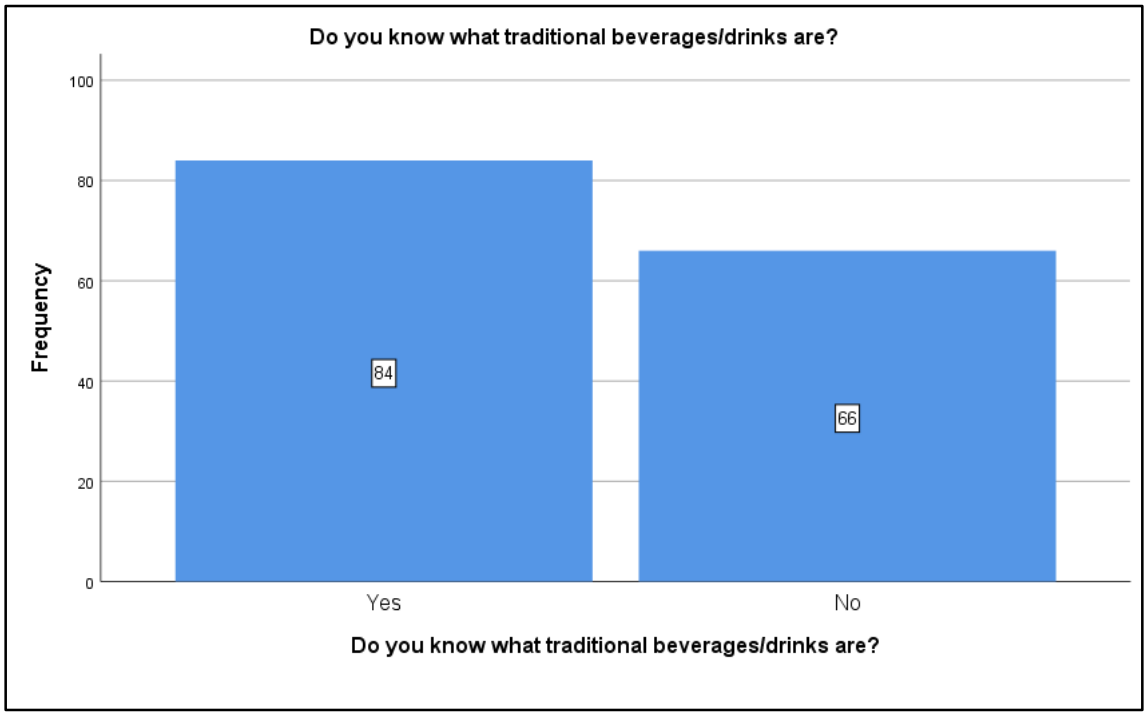
Area :

The descriptive analysis from Table 5 reveals that all respondents (100%) were from the Shamshabad area. This indicates a geographically uniform study population.

Table 6: Descriptive analysis of Knowledge of Traditional beverage in the study population.

Do you know what traditional beverages/drinks are?	Frequency	Percent
Yes	84	56.0
No	66	44.0
Total	150	100.0

Figure 6 : Bar Chart for Knowledge of Traditional beverage in the study population.



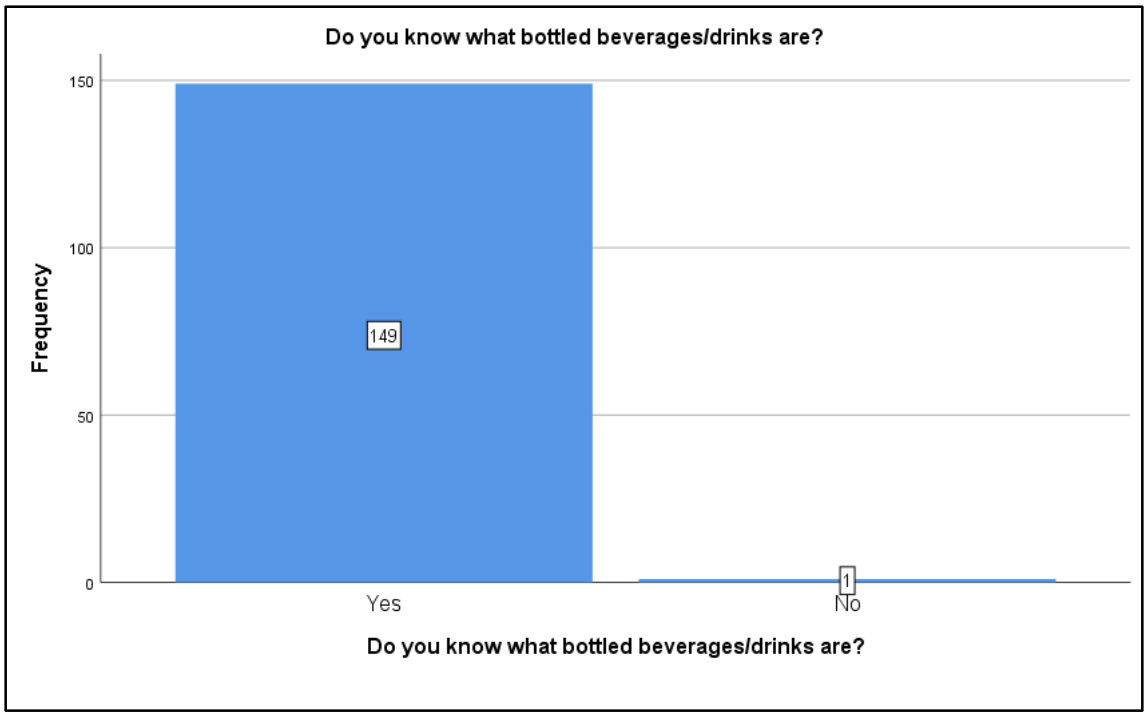
Knowledge :

The descriptive analysis from Table 6 shows that 56% of the respondents were aware of traditional beverages, while 44% were not aware. This indicates a moderate level of knowledge regarding Traditional beverage among the students.

Table 7: Descriptive analysis of Knowledge of Bottled beverage in the study population

Do you know what bottled beverages/drinks are?	Frequency	Percent
Yes	149	99.3
No	1	0.7
Total	150	100.0

Figure 7 : Bar Chart for Knowledge of Bottled beverage in the study population.



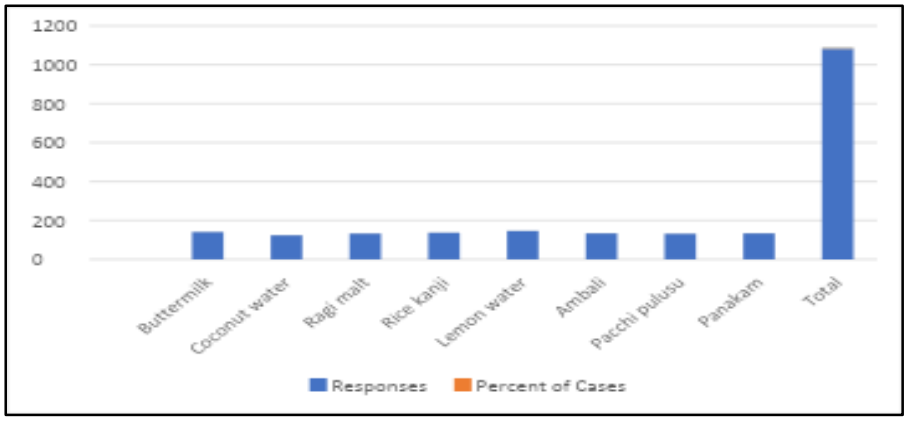
The descriptive analysis from Table 7 reveals that 99.3% of the respondents were aware of bottled beverages, while only 0.7% were not aware. This shows very high awareness and exposure to bottled beverages.

Table 8 : Descriptive analysis of Knowledge of various Traditional beverage in the study population.

Traditional drinks knowledge	Responses		Percent of Cases
	N	Percent	
Buttermilk	141	13.0%	94.0%
Coconut water	124	11.5%	82.7%

Ragi malt	133	12.3%	88.7%
Rice kanji	137	12.7%	91.3%
Lemon water	146	13.57%	97.3%
Ambali	134	12.4%	89.3%
Pacchi pulusu	132	12.2%	88.0%
Panakam	134	12.4%	89.3%
Total	1081	100.0%	720.%

Figure 8 : Bar Chart for Knowledge of various Traditional beverage in the study population.



The descriptive analysis from Table 8 reveals that 97.3% of respondents had knowledge about lemon water, 94% about buttermilk, and 91.3% about rice kanji. Knowledge of ragi malt (88.7%), ambali (89.3%), pacchi pulusu (88%), and panakam (89.3%) was also high. In total of 100% , 13% knew Buttermilk ,11.5% Coconut water,12.3% Ragi malt , 12.7% Rice kanji ,13.5% Lemon water ,12.4% Ambali , 12.2% Pacchi pulusu and 12.4 % Panakam .This shows that most traditional beverages were well recognized by the respondents.

Table 9 : Descriptive analysis of Knowledge of various Bottled beverage in the study population.

knowledge on bottleed drinks[a]	Responses		Percent of Cases
	N	Percent	
Soft drink	150	20.3%	100.0%
Packaged juices	148	20.1%	98.7%
Energy drinks	150	20.3%	100.0%
Flavoured water	146	19.8%	97.3%
All the above	144	19.5%	96.0%
Total	738	100.0%	492.0%

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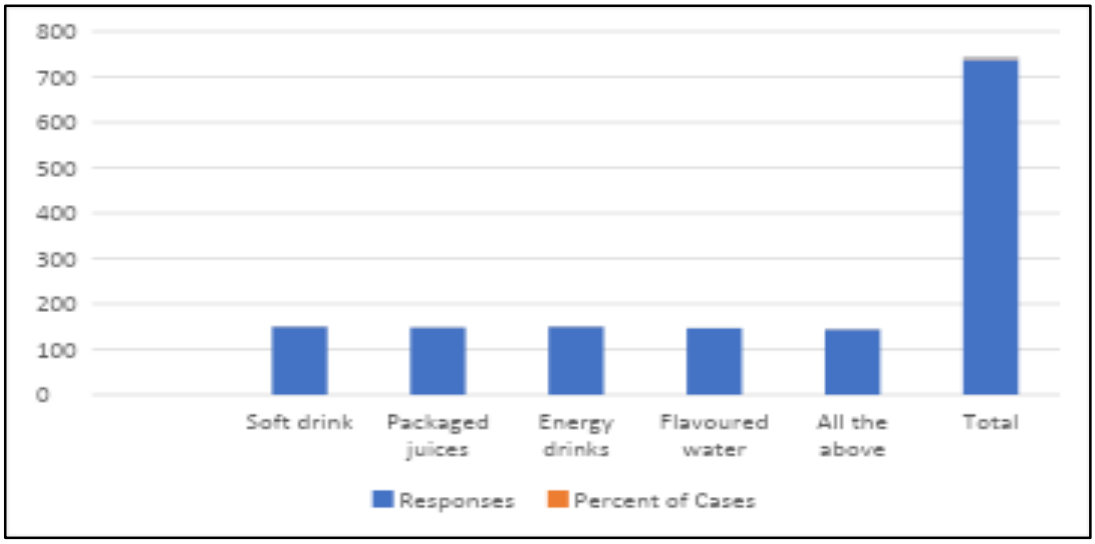
Figure 9 : Bar Chart for Knowledge of various Bottled beverage in the study population.



The descriptive analysis from Table 9 shows that 100% of respondents were aware of soft drinks and energy drinks, 98.7% knew about packaged juices, and 97.3% were aware of flavoured water . In total of 100%, 20.3% knew Soft drink, 20.1% packaged juices , 20.3% energy drinks, 19.8% flavoured water and 19.5% all. This indicates widespread familiarity with bottled beverage types

Table 10: Descriptive analysis of Disadvantages of Bottled Beverages in the study population.

Disadvantages of bottled drinkibng[a]	Responses		Percent of Cases
	N	Percent	
High sugar	129	28.4%	86.0%
Additives	103	22.7%	68.7%
Expensive	90	19.8%	60.0%
Harmful	132	29.1%	88.0%
Total	454	100.0%	302.7%

Figure 10 : Bar Chart for Disadvantages of Bottled Beverages in the study population.

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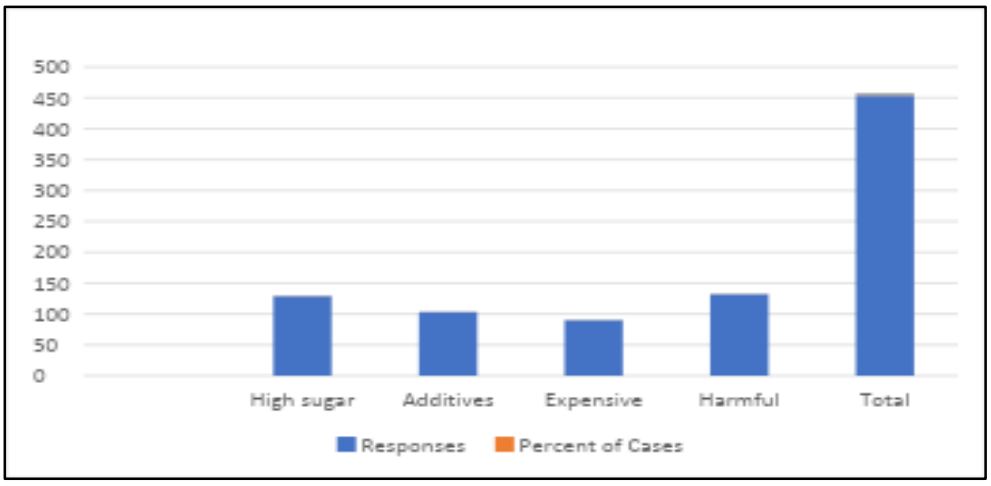
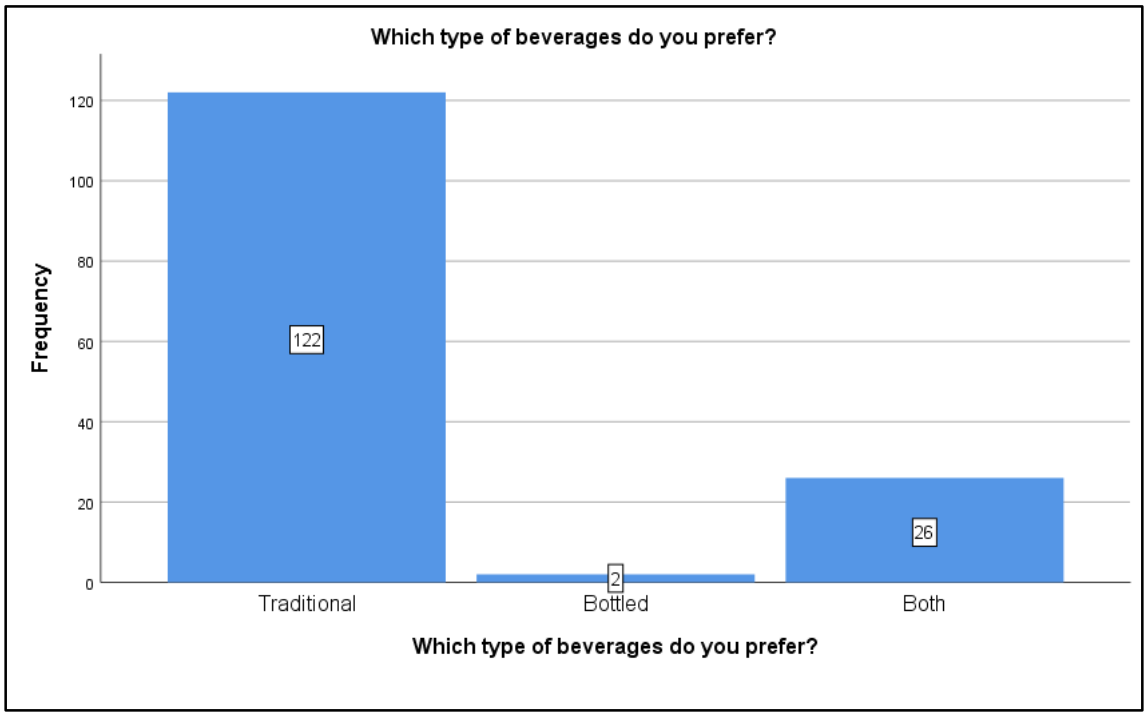


The descriptive analysis from Table 10 reveals that 28.4% of respondents perceived bottled beverages as harmful, 22.7% reported high sugar content, 19.8% reported the presence of additives, and 29.1% reported high cost. This shows that respondents identified multiple disadvantages of bottled beverages

Table 11: Descriptive analysis of Preference for Type of Beverage in the study population.

Which type of beverages do you prefer?	Frequency	Percent
Traditional	122	81.3
Bottled	2	1.3
Both	26	17.3
Total	150	100.0

Figure 11 : Bar Chart for Preference for Type of Beverage in the study population.

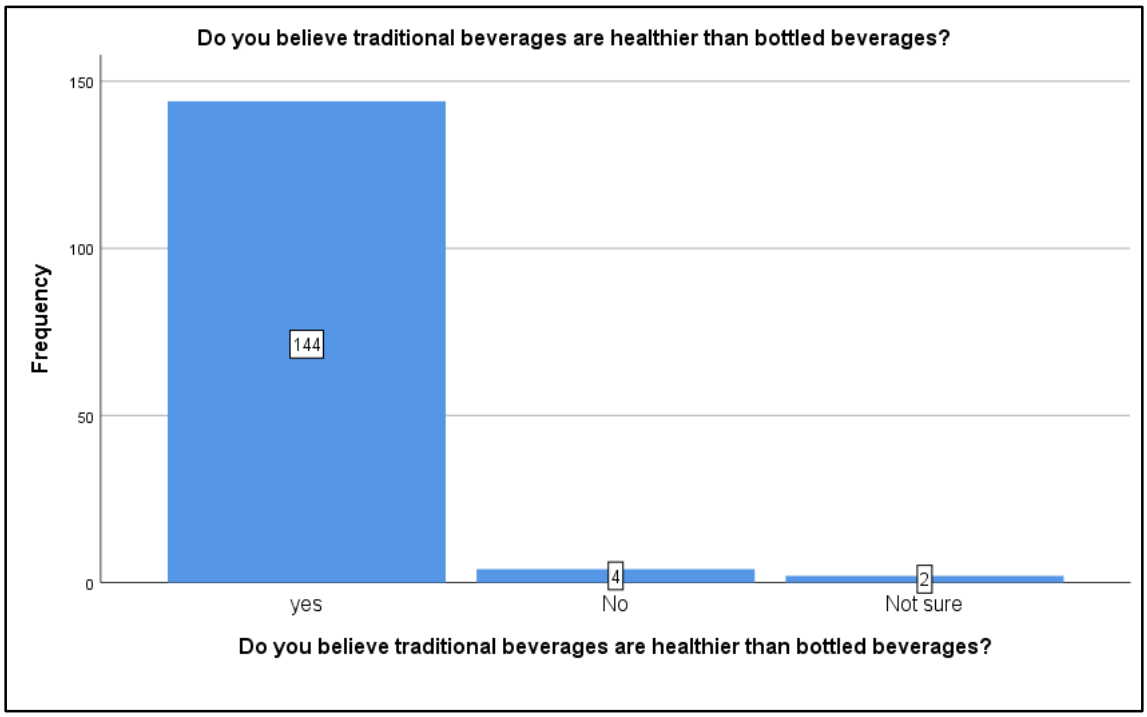


The descriptive analysis from Table 11 shows that 81.3% of respondents preferred traditional beverages, 17.3% preferred both traditional and bottled beverages, and 1.3% preferred only bottled beverages. This indicates a greater preference for traditional beverages.

Table 12: Descriptive analysis of Belief Regarding Healthiness of Beverages in the study population.

Do you believe Traditional beverage are healthier than bottled beverages?	Frequency	Percent
Yes	144	96
No	4	2.7
Not sure	2	1.3
Total	150	100

Figure 12 : Bar Chart for Belief Regarding Healthiness of Beverages in the study population.

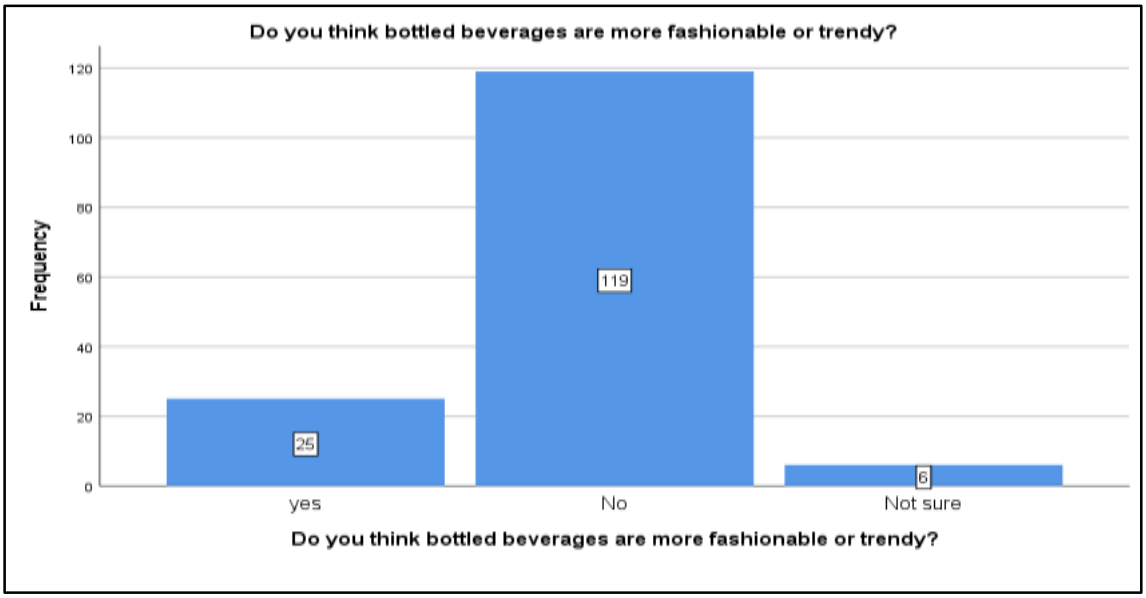


The descriptive analysis from Table 13 shows that 79.3% of respondents did not consider bottled beverages trendy, while 16.7% considered them trendy and 4% were unsure. This indicates that bottled beverages were not widely viewed as fashionable.

Table 13: Descriptive analysis of Recommendation of Bottled beverage in the study population.

Do you think Bottled beverage are more fashionable or trendy?	Frequency	Percent
yes	25	16.7
No	119	79.3
Not sure	6	4.0
Total	150	100.0

Figure 13 : Bar Chart for Recommendation of Bottled beverage in the study population.

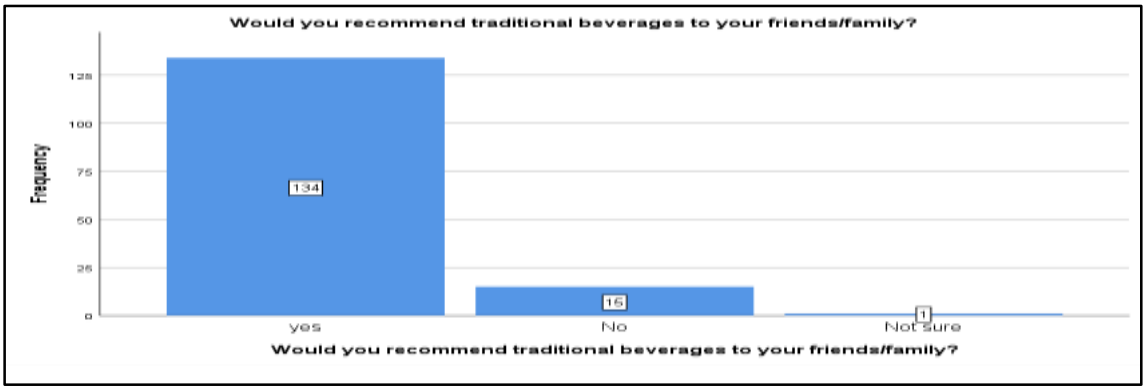


The descriptive analysis from Table 13 shows that 79.3% of respondents did not consider bottled beverages trendy, while 16.7% considered them trendy and 4% were unsure. This indicates that bottled beverages were not widely viewed as fashionable*.

Table 14: Descriptive analysis of Recommendation of Traditional Beverages in the study population.

Would you recommend Traditional beverage to your friends/family?	Frequency	Percent
yes	134	89.3
No	15	10
Not sure	1	0.7
Total	150	100

Figure 14 : Bar Chart for Recommendation of Traditional Beverages in the study population.

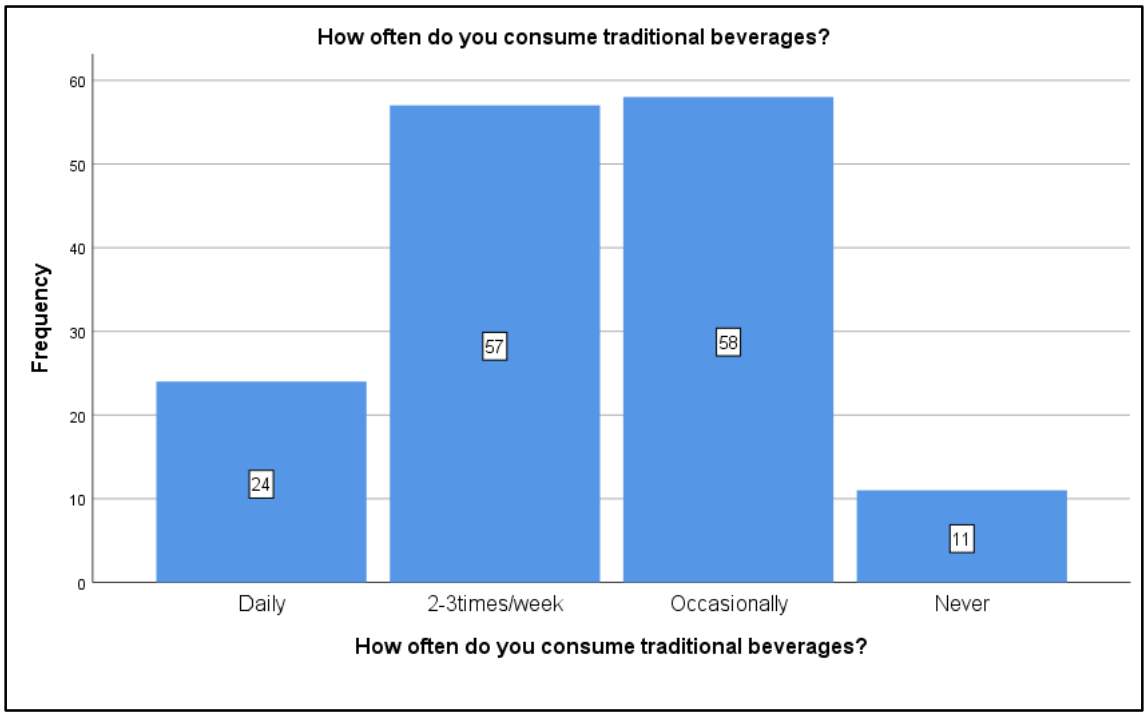


The descriptive analysis from Table 14 reveals that 89.3% of respondents would recommend traditional beverages, while 10% would not and 0.7% were unsure. This shows a high level of acceptance and recommendation of traditional beverages.

Table 15: Descriptive analysis of Frequency of Consumption of Traditional Beverages in the study population.

How often do you consume traditional beverages?	Frequency	Percent
Daily	24	16
2-3times/week	57	38
Occasionally	58	38.7
Never	11	7.3
Total	150	100

Figure 15 : Bar Chart for Frequency of Consumption of Traditional Beverages in the study population.

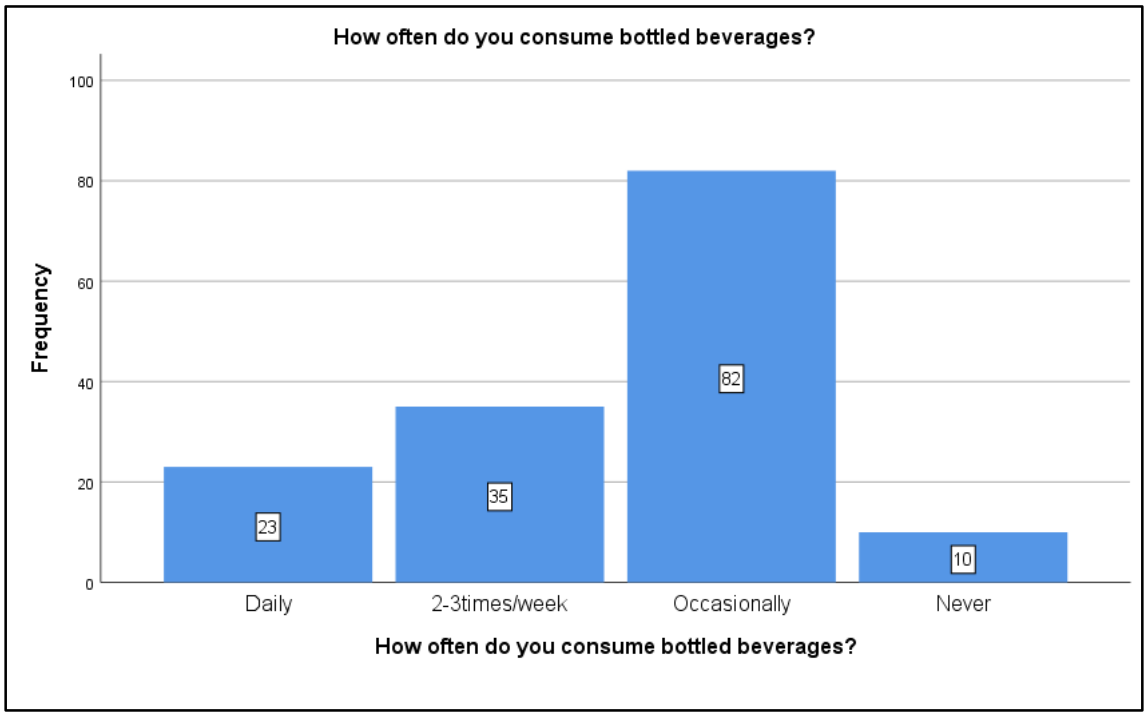


The descriptive analysis from Table 15 shows that 38.7% consumed traditional beverages occasionally, 38% consumed them 2–3 times per week, 16% consumed them daily, and 7.3% never consumed them. This indicates varying consumption frequency among respondents.

Table 16: Descriptive analysis of Frequency of Consumption of Bottled Beverages in the study population.

How often do you consume bottled beverages?	Frequency	Percent
Daily	23	15.3
2-3times/week	35	23.3
Occasionally	82	54.7
Never	10	6.7
Total	150	100.0

Figure 16 : Bar Chart for Frequency of Consumption of Bottled Beverages in the study population.

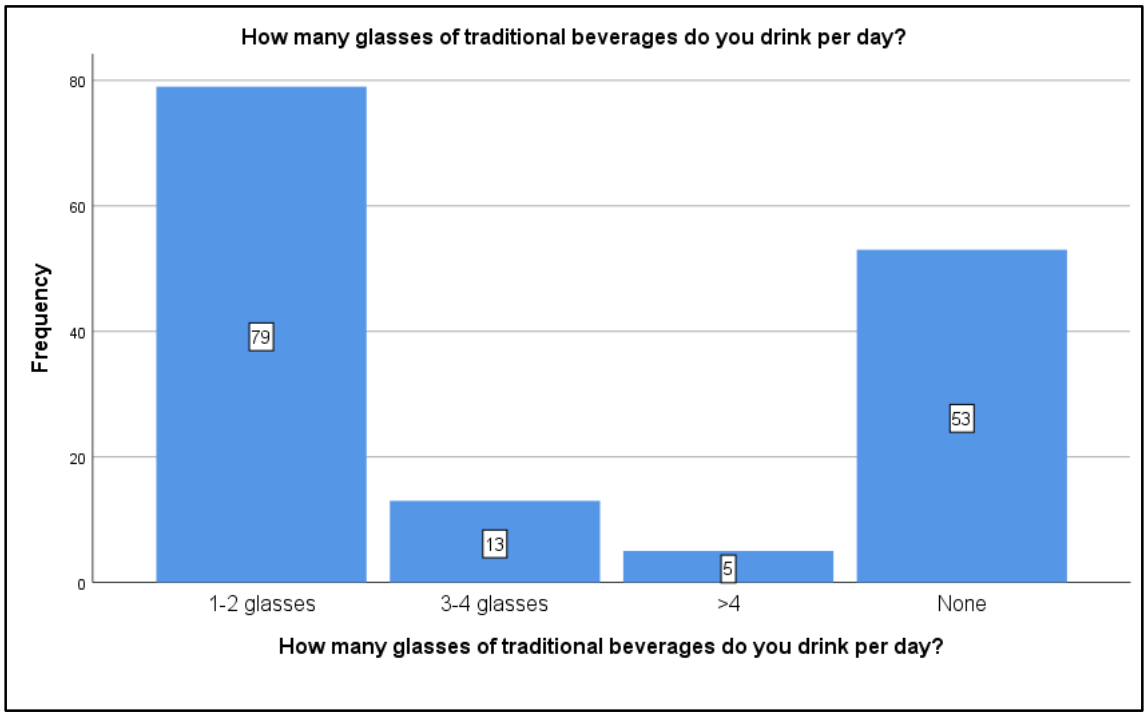


The descriptive analysis from Table 16 reveals that 54.7% consumed bottled beverages occasionally, 23.3% consumed them 2–3 times per week, 15.3% consumed them daily, and 6.7% never consumed them. This shows that bottled beverages were commonly consumed on an occasional basis.

Table 17: Descriptive analysis of Quantity of Traditional Beverages Consumed per Day in the study population.

How many glasses of Traditional beverage do you drink per day?	Frequency	Percent
1-2 glasses	79	52.7
3-4 glasses	13	8.7
>4	5	3.3
None	53	35.3
Total	150	100

Figure 17 : Bar Chart for Quantity of Traditional Beverages Consumed per Day in the study population.

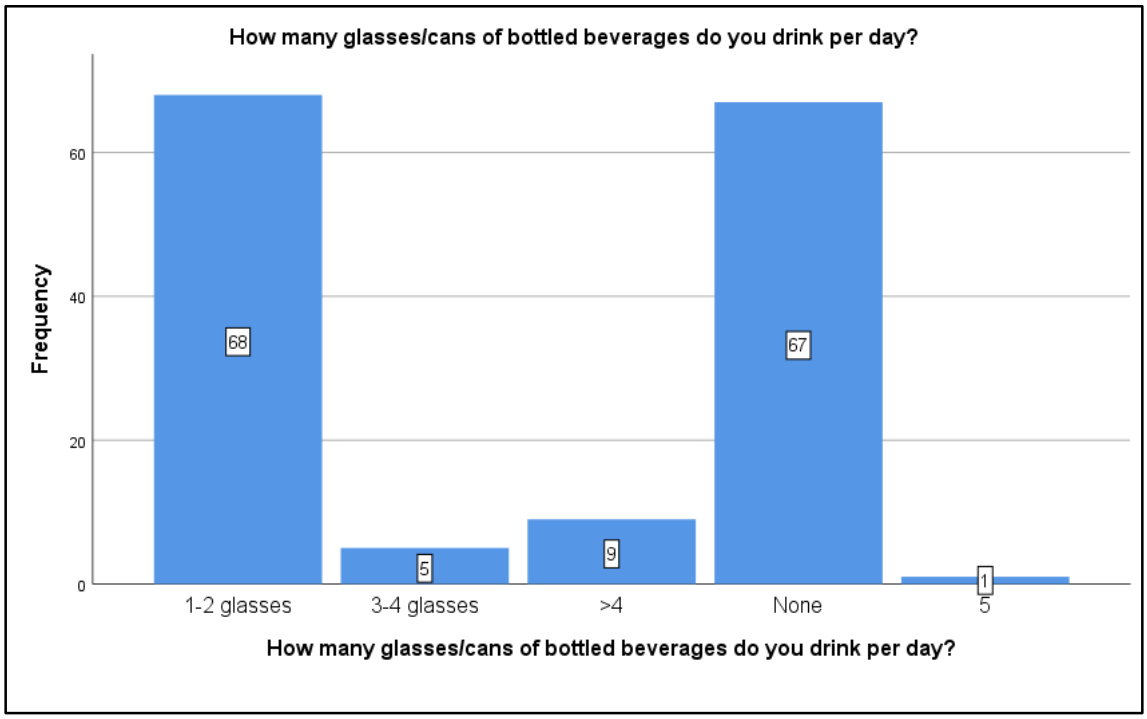


The descriptive analysis from Table 17 shows that 52.7% consumed 1–2 glasses per day, 8.7% consumed 3–4 glasses, 3.3% consumed more than 4 glasses, and 35.3% did not consume traditional beverages daily. This shows variation in daily intake of traditional beverages.

Table 18: Descriptive analysis of Quantity of Bottled Beverages Consumed per Day in the study population.

How many glasses/cans of Bottled beverage do you drink per day?	Frequency	Percent
1-2 glasses	68	45.3
3-4 glasses	5	3.3
>4	9	6.0
None	67	44.7
5	1	0.7
Total	150	100.0

Figure 18 : Bar Chart for Quantity of Bottled Beverages Consumed per Day in the study population.

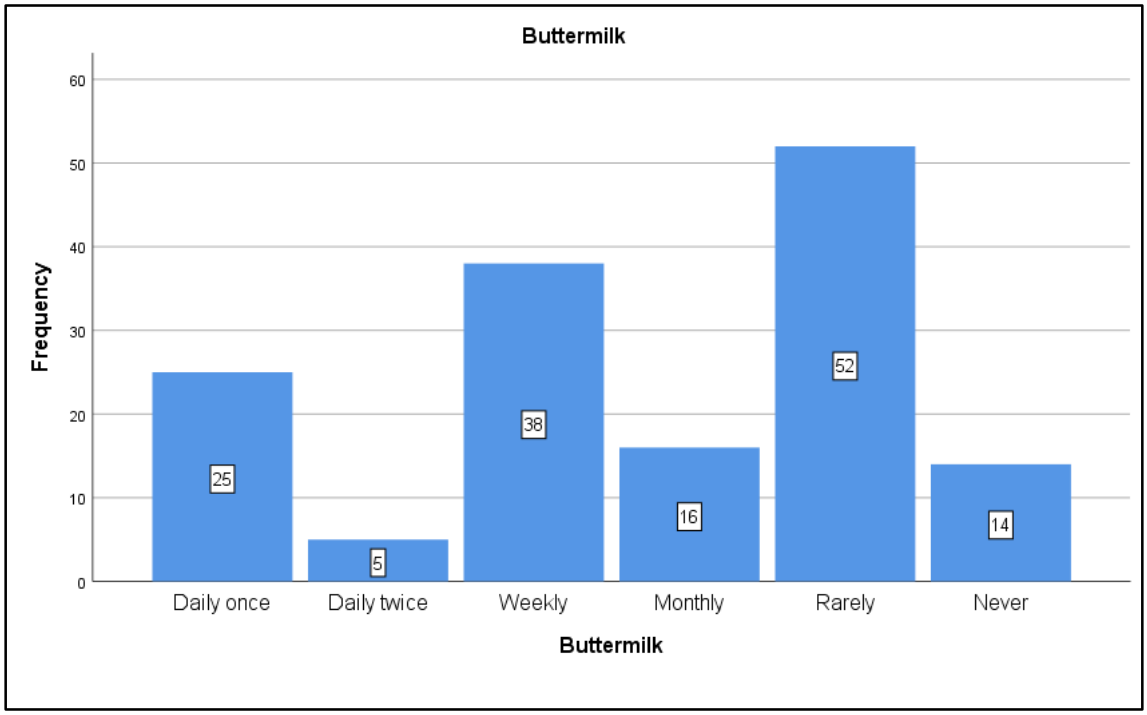


The descriptive analysis from Table 18 reveals that 45.3% consumed 1–2 glasses/cans per day, 6% consumed more than 4, 3.3% consumed 3–4, 44.7% consumed none, and 0.7% consumed five glasses per day. This indicates differences in daily bottled beverage intake.

Tables 19 : Descriptive analysis of Consumption Pattern of BUTTERMILK in the study population.

Butter milk	Frequency	Percent
Daily once	25	16.7
Daily twice	5	3.3
Weekly	38	25.3
Monthly	16	10.7
Rarely	52	34.7
Never	14	9.3
Total	150	100.0

Figure 19 : Bar Chart for Consumption Pattern of BUTTERMILK in the study population



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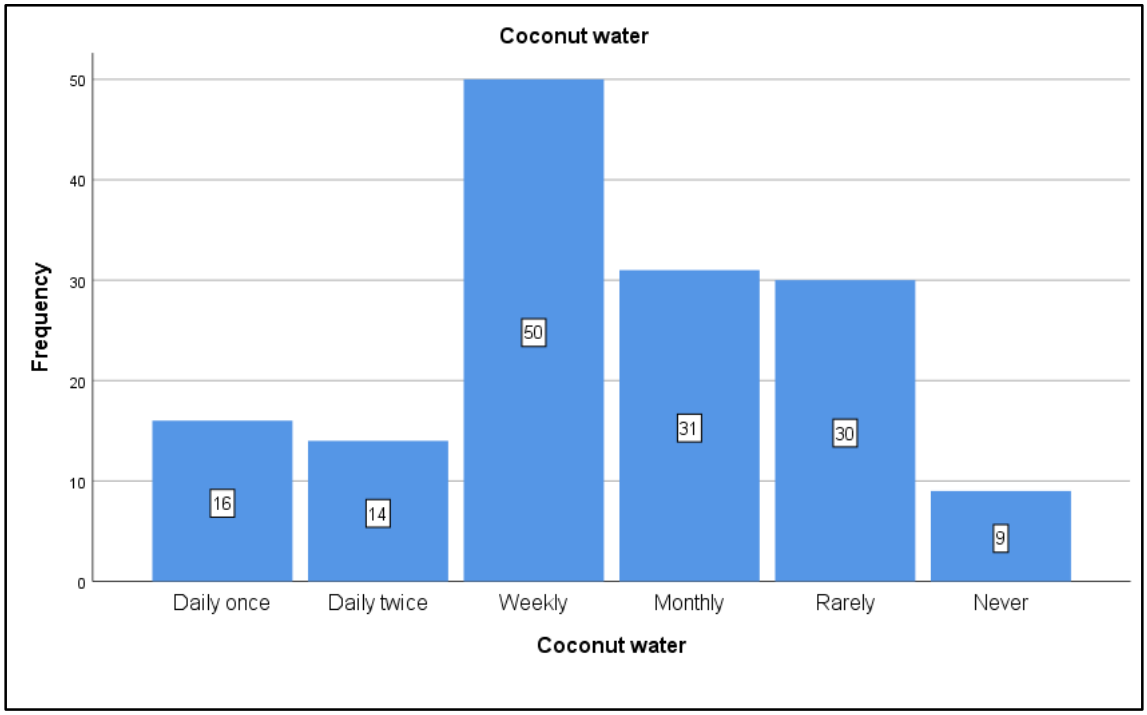
The descriptive analysis from Table 19 reveals that 25 respondents (16.7%) consumed buttermilk daily once, 5 respondents (3.3%) daily twice, 38 respondents (25.3%) weekly, 16 respondents (10.7%) monthly, 52 respondents (34.7%) rarely, and 14 respondents (9.3%) never consumed buttermilk.This shows that buttermilk was commonly consumed on a weekly or occasional basis.

Table 20: Descriptive analysis of Consumption Pattern of Coconut Waterin the study population.

Coconut water	Frequency	Percent
Daily once	16	10.7
Daily twice	14	9.3
Weekly	50	33.3
Monthly	31	20.7
Rarely	30	20.0
Never	9	6.0
Total	150	100.0

Figure 20 : Bar Chart for Consumption Pattern of Coconut Water in the study population.

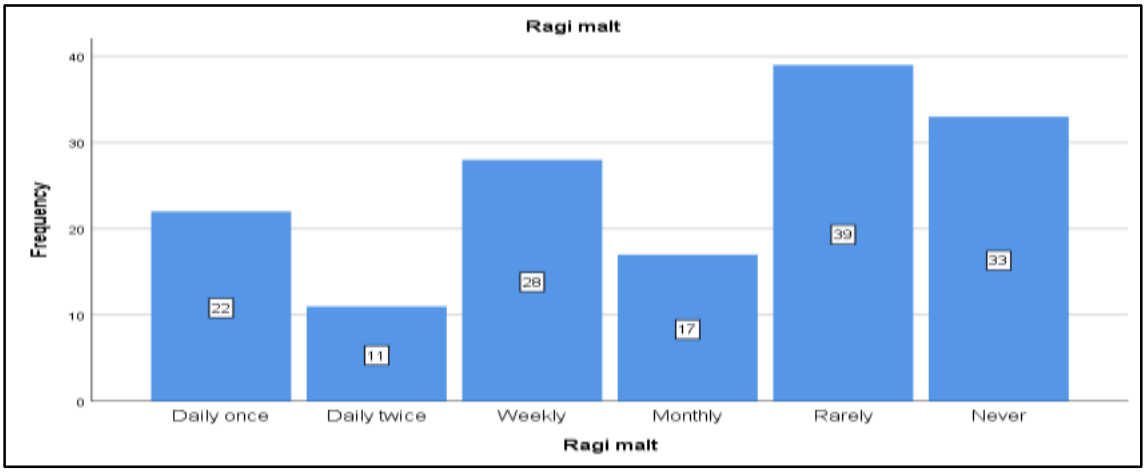


The descriptive analysis from Table 20 reveals that 16 respondents (10.7%) consumed coconut water daily once, 14 respondents (9.3%) daily twice, 50 respondents (33.3%) weekly, 31 respondents (20.7%) monthly, 30 respondents (20%) rarely, and 9 respondents (6%) never consumed coconut water .This indicates that coconut water was mainly consumed weekly or monthly.

Table 21: Descriptive analysis of Consumption Pattern of Ragi Malt in the study population.

Ragi malt	Frequency	Percent
Daily once	22	14.7
Daily twice	11	7.3
Weekly	28	18.7
Monthly	17	11.3
Rarely	39	26.0
Never	33	22.0
Total	150	100.0

Figure 21 : Bar Chart for Consumption Pattern of Ragi Malt in the study population.

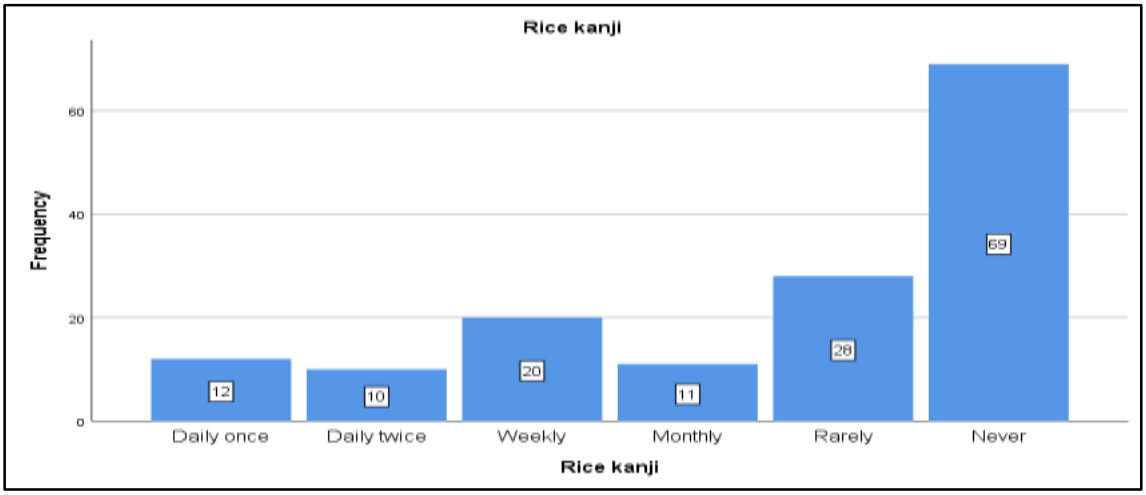


The descriptive analysis from Table 21 shows that 22 respondents (14.7%) consumed ragi malt daily once, 11 respondents (7.3%) daily twice, 28 respondents (18.7%) weekly, 17 respondents (11.3%) monthly, 39 respondents (26%) rarely, and 33 respondents (22%) never consumed ragi malt.This shows moderate to low regular consumption of ragi malt.

Table 22: Descriptive analysis of Consumption Pattern of Rice Kanji in the study population.

Rice kanji	Frequency	Percent
Daily once	12	8.0
Daily twice	10	6.7
Weekly	20	13.3
Monthly	11	7.3
Rarely	28	18.7
Never	69	46.0
Total	150	100.0

Figure 22 : Bar Chart for Consumption Pattern of Rice Kanji in the study population.

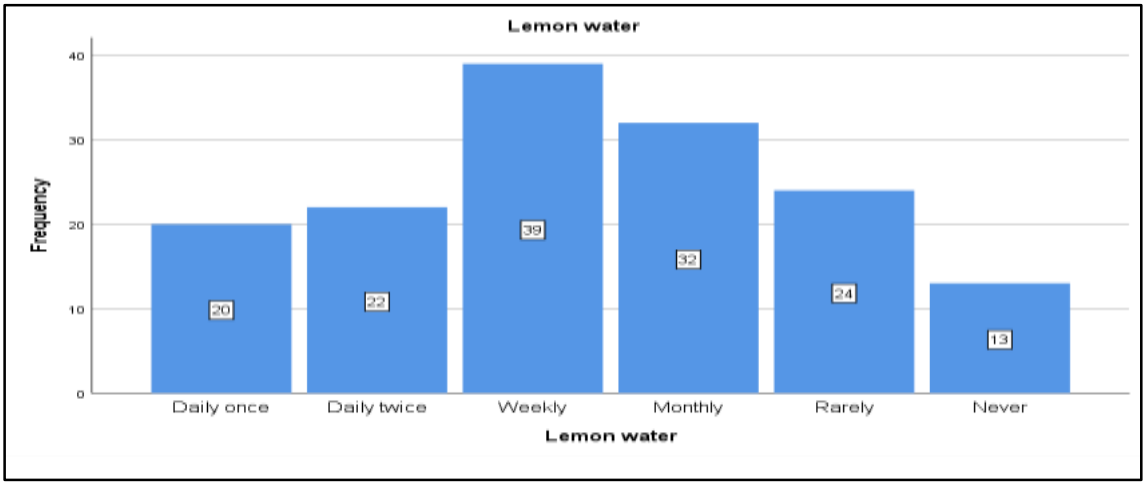


The descriptive analysis from Table 22 reveals that 12 respondents (8%) consumed rice kanji daily once, 10 respondents (6.7%) daily twice, 20 respondents (13.3%) weekly, 11 respondents (7.3%) monthly, 28 respondents (18.7%) rarely, and 69 respondents (46%) never consumed rice kanji.This shows that rice kanji was least consumed among respondents.

Table 23: Descriptive analysis of Consumption Pattern of Lemon Water in the study population.

Lemon water	Frequency	Percent
Daily once	20	13.3
Daily twice	22	14.7
Weekly	39	26.0
Monthly	32	21.3
Rarely	24	16.0
Never	13	8.7
Total	150	100.0

Figure 23 : Bar Chart for Consumption Pattern of Lemon Water in the study population.

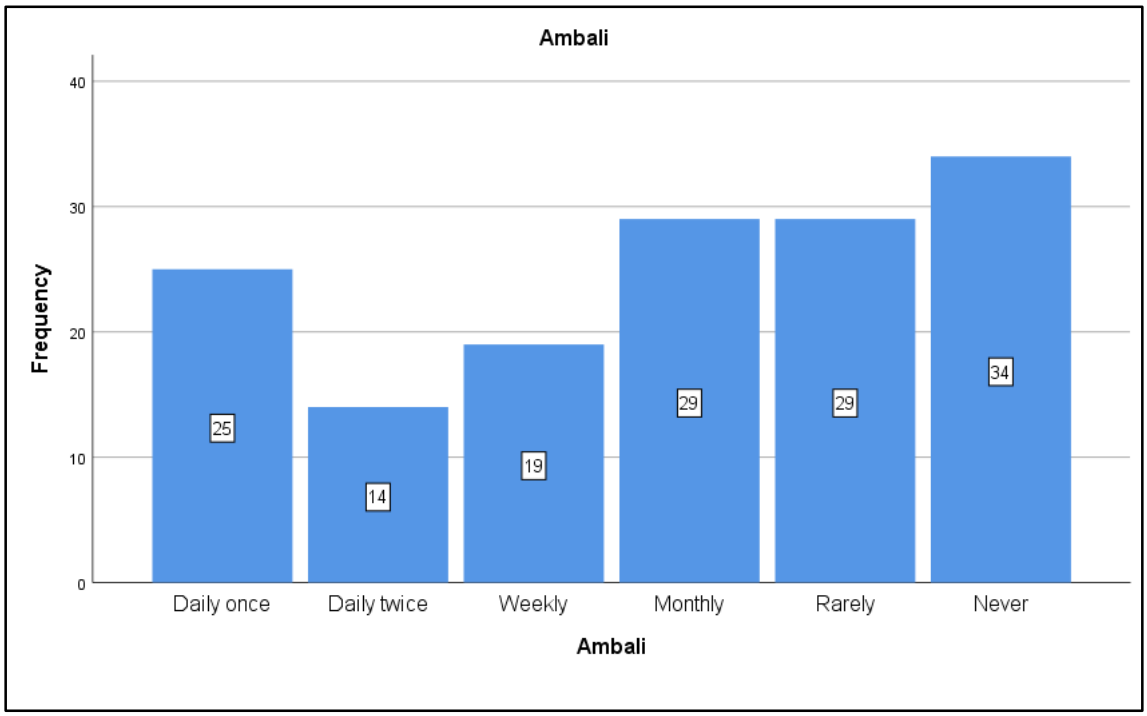


The descriptive analysis from Table 23 shows that 20 respondents (13.3%) consumed lemon water daily once, 22 respondents (14.7%) daily twice, 39 respondents (26%) weekly, 32 respondents (21.3%) monthly, 24 respondents (16%) rarely, and 13 respondents (8.7%) never consumed lemon water.This indicates that lemon water was one of the more frequently consumed traditional beverages.

Table 24: Descriptive analysis of Consumption Pattern of Ambali in the study population.

Ambali	Frequency	Percent
Daily once	25	16.7
Daily twice	14	9.3
Weekly	19	12.7
Monthly	29	19.3
Rarely	29	19.3
Never	34	22.7
Total	150	100.0

Figure 24 : Bar Chart for Consumption Pattern of Ambali in the study population.

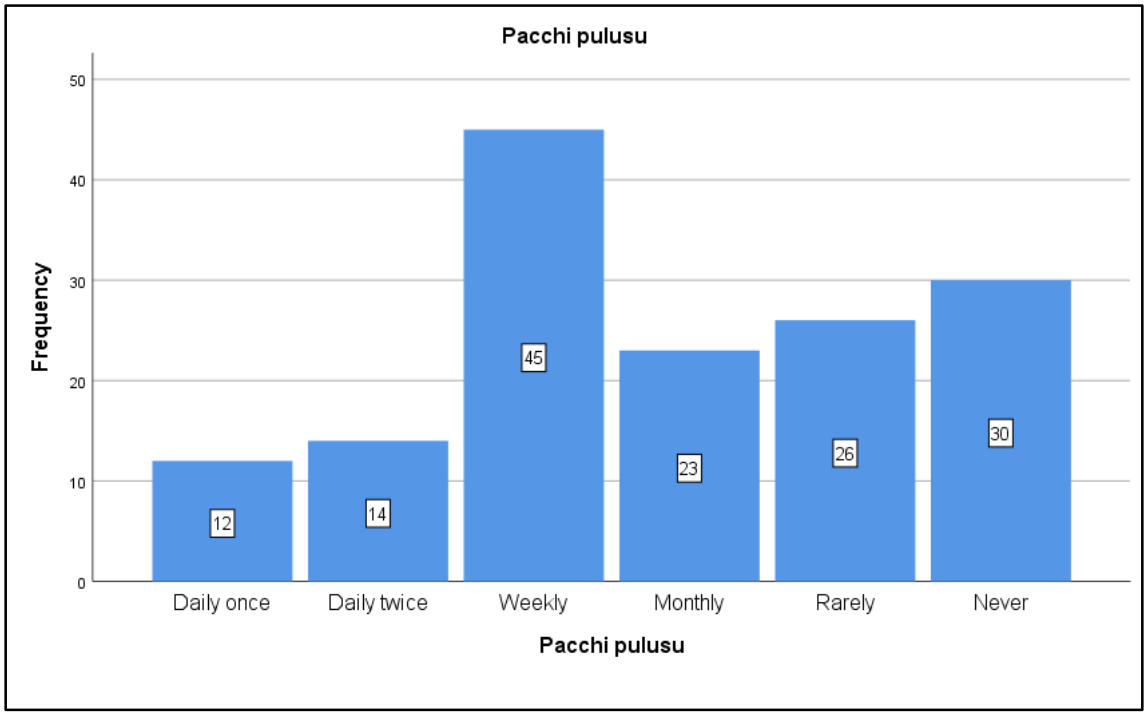


The descriptive analysis from Table 24 reveals that 25 respondents (16.7%) consumed ambali daily once, 14 respondents (9.3%) daily twice, 19 respondents (12.7%) weekly, 29 respondents (19.3%) monthly, 29 respondents (19.3%) rarely, and 34 respondents (22.7%) never consumed ambali.This shows mixed and irregular consumption of ambali.

Table 25: Descriptive analysis of Consumption Pattern of Pacchi Pulusu in the study population.

Pacchi pulusu	Frequency	Percent
Daily once	12	8.0
Daily twice	14	9.3
Weekly	45	30.0
Monthly	23	15.3
Rarely	26	17.3
Never	30	20.0
Total	150	100.0

Figure 25: Bar Chart for Consumption Pattern of Pacchi Pulusu in the study population.



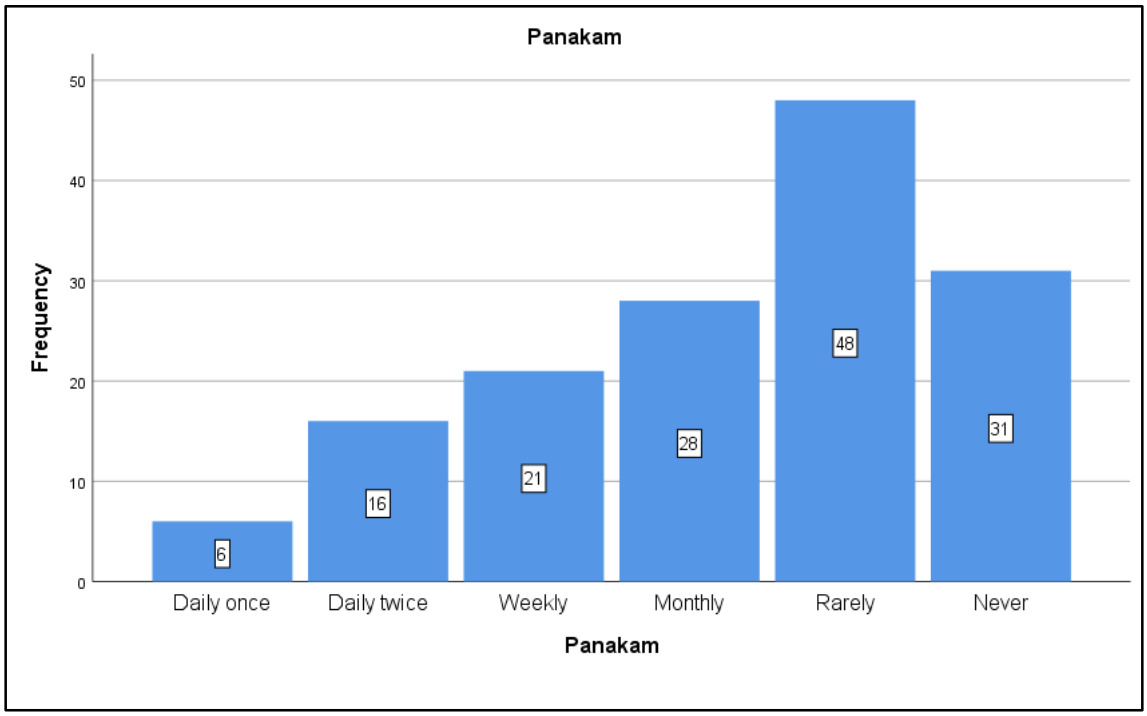
The descriptive analysis from Table 25 shows that 12 respondents (8%) consumed pacchi pulusu daily once, 14 respondents (9.3%) daily twice, 45 respondents (30%) weekly, 23 respondents (15.3%) monthly, 26 respondents (17.3%) rarely, and 30 respondents (20%) never consumed pacchi pulusu.This indicates that pacchi pulusu was mainly consumed on a weekly basis.

Table 26: Descriptive analysis of Consumption Pattern of Panakam in the study population.

Panakam	Frequency	Percent
Daily once	6	4.0
Daily twice	16	10.7
Weekly	21	14.0

Monthly	28	18.7
Rarely	48	32.0
Never	31	20.7
Total	150	100.0

Figure 26: Bar Chart for Consumption Pattern of Panakam in the study population.



The descriptive analysis from Table 26 reveals that 6 respondents (4%) consumed panakam daily once, 16 respondents (10.7%) daily twice, 21 respondents (14%) weekly, 28 respondents (18.7%) monthly, 48 respondents (32%) rarely, and 31 respondents (20.7%) never consumed panakam.This shows low daily consumption and higher occasional intake of panakam.

Table 27: Descriptive analysis of Consumption Pattern of Coca-Cola in the study population.

Coca Cola	Frequency	Percent
Daily once	15	10
Daily twice	13	8.7
Weekly	35	23.3
Monthly	15	10
Rarely	28	18.7
Never	44	29.3
Total	150	100

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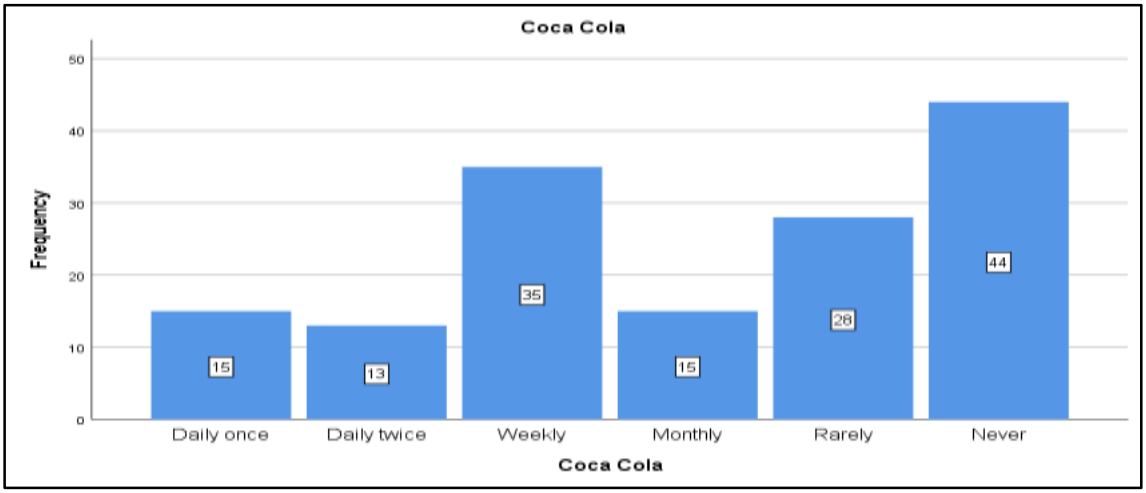
Figure 27: Bar Chart for Consumption Pattern of Coca-Cola in the study population.

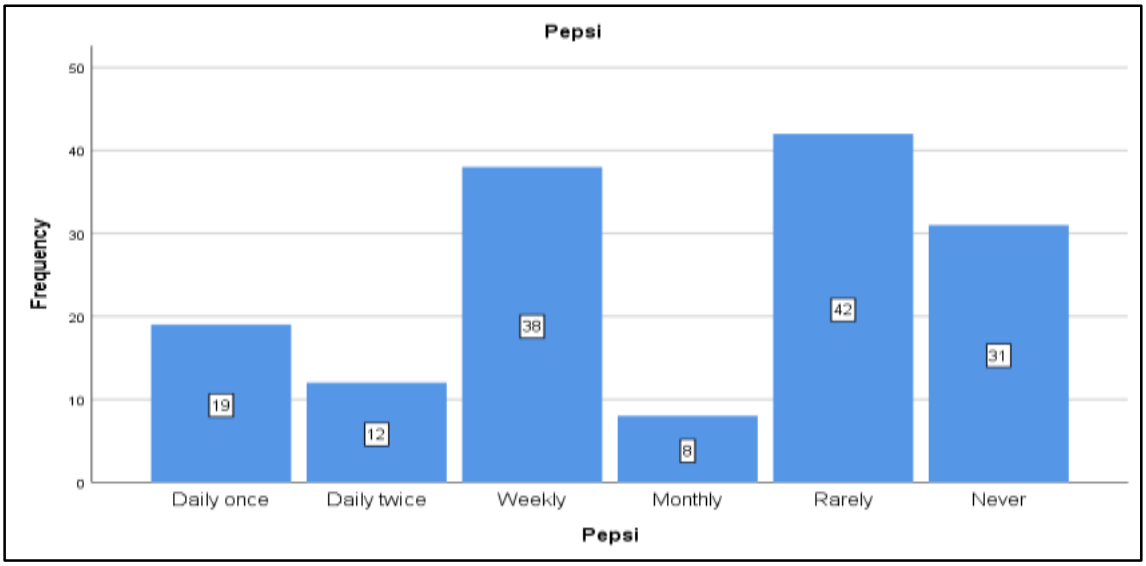


The descriptive analysis from Table 27 reveals that 15 respondents (10%) consumed Coca-Cola daily once, 13 respondents (8.7%) daily twice, 35 respondents (23.3%) weekly, 15 respondents (10%) monthly, 28 respondents (18.7%) rarely, and 44 respondents (29.3%) never consumed Coca-Cola.This indicates that Coca-Cola was mainly consumed weekly or occasionally

Table 28: Descriptive analysis of Consumption Pattern of Pepsi in the study population.

Pepsi	Frequency	Percent
Daily once	19	12.7
Daily twice	12	8.0
Weekly	38	25.3
Monthly	8	5.3
Rarely	42	28.0
Never	31	20.7
Total	150	100.0

Figure 28: Bar Chart for Consumption Pattern of Pepsi in the study population.

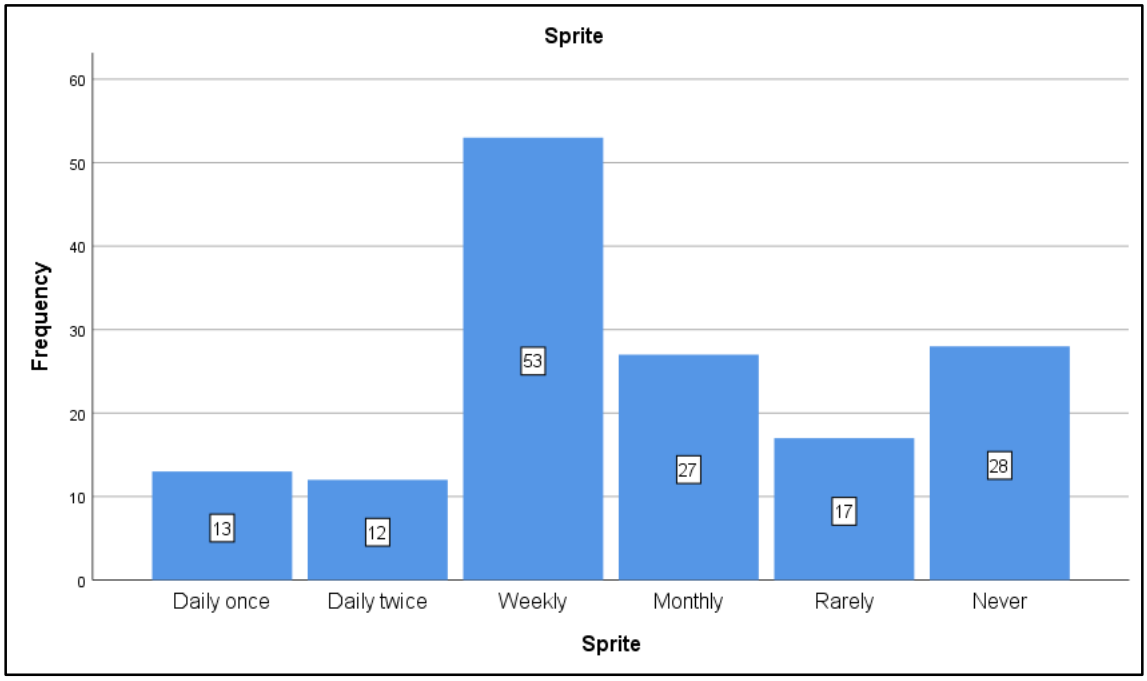


The descriptive analysis from Table 28 shows that 19 respondents (12.7%) consumed Pepsi daily once, 12 respondents (8%) daily twice, 38 respondents (25.3%) weekly, 8 respondents (5.3%) monthly, 42 respondents (28%) rarely, and 31 respondents (20.7%) never consumed Pepsi.This shows moderate weekly consumption of Pepsi.

Table 29: Descriptive analysis of Consumption Pattern of Sprite in the study population.

Sprite	Frequency	Percent
Daily once	13	8.7
Daily twice	12	8.0
Weekly	53	35.3
Monthly	27	18.0
Rarely	17	11.3
Never	28	18.7
Total	150	100.0

Figure 29: Bar Chart for Consumption Pattern of Sprite in the study population.

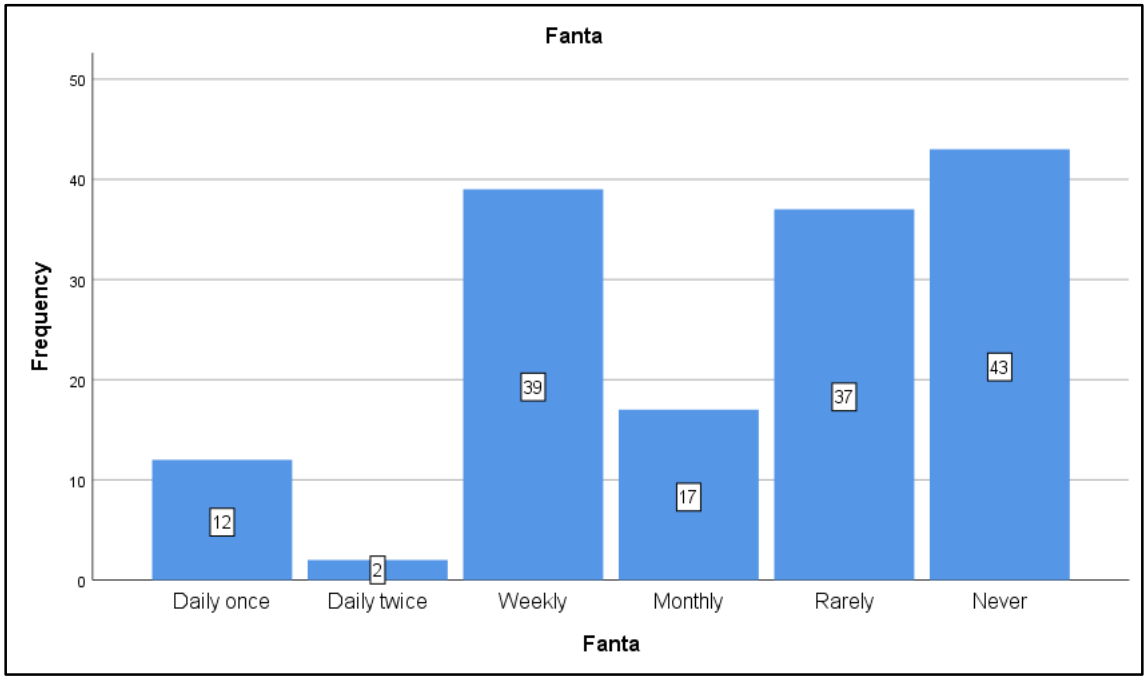


The descriptive analysis from Table 29 reveals that 13 respondents (8.7%) consumed Sprite daily once, 12 respondents (8%) daily twice, 53 respondents (35.3%) weekly, 27 respondents (18%) monthly, 17 respondents (11.3%) rarely, and 28 respondents (18.7%) never consumed Sprite.This indicates that Sprite had higher weekly consumption compared to other soft drinks.

Table 30: Descriptive analysis of Consumption Pattern of Fantain the study population.

Fanta	Frequency	Percent
Daily once	12	8.0
Daily twice	2	1.3
Weekly	39	26.0
Monthly	17	11.3
Rarely	37	24.7
Never	43	28.7
Total	150	100.0

Figure 30: Bar Chart for Consumption Pattern of Fanta in the study population.

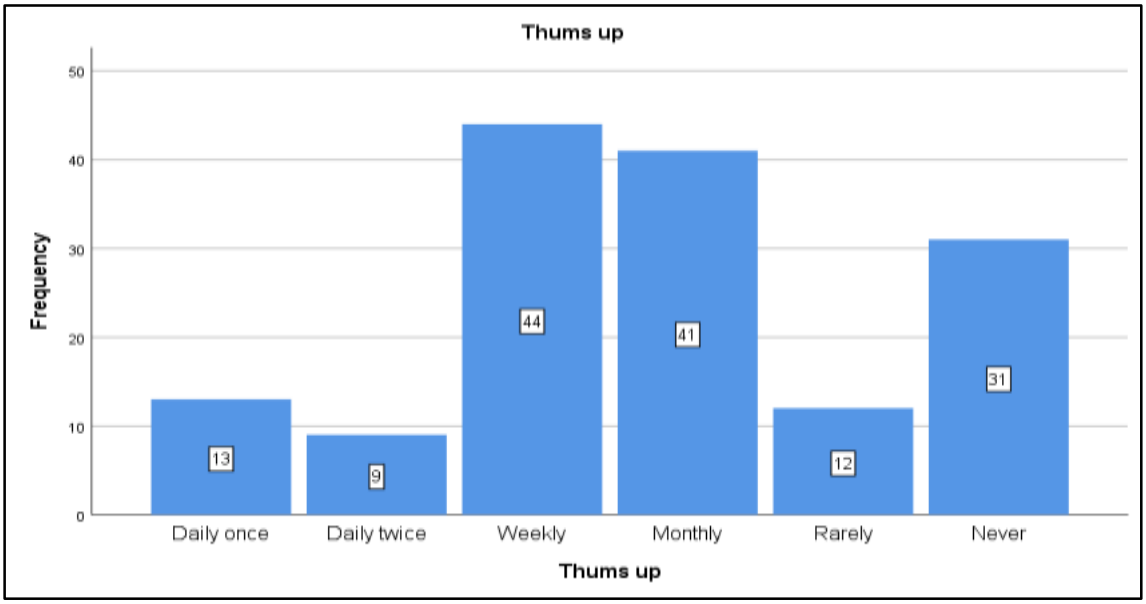


The descriptive analysis from Table 30 shows that 12 respondents (8%) consumed Fanta daily once, 2 respondents (1.3%) daily twice, 39 respondents (26%) weekly, 17 respondents (11.3%) monthly, 37 respondents (24.7%) rarely, and 43 respondents (28.7%) never consumed Fanta.This shows irregular and occasional consumption of Fanta.

Table 31: Descriptive analysis of Consumption Pattern of Thums Up in the study population.

Thums up	Frequency	Percent
Daily once	13	8.7
Daily twice	9	6
Weekly	44	29.3
Monthly	41	27.3
Rarely	12	8
Never	31	20.7
Total	150	100

Figure 30: Bar Chart for Consumption Pattern of Thums Up in the study population.

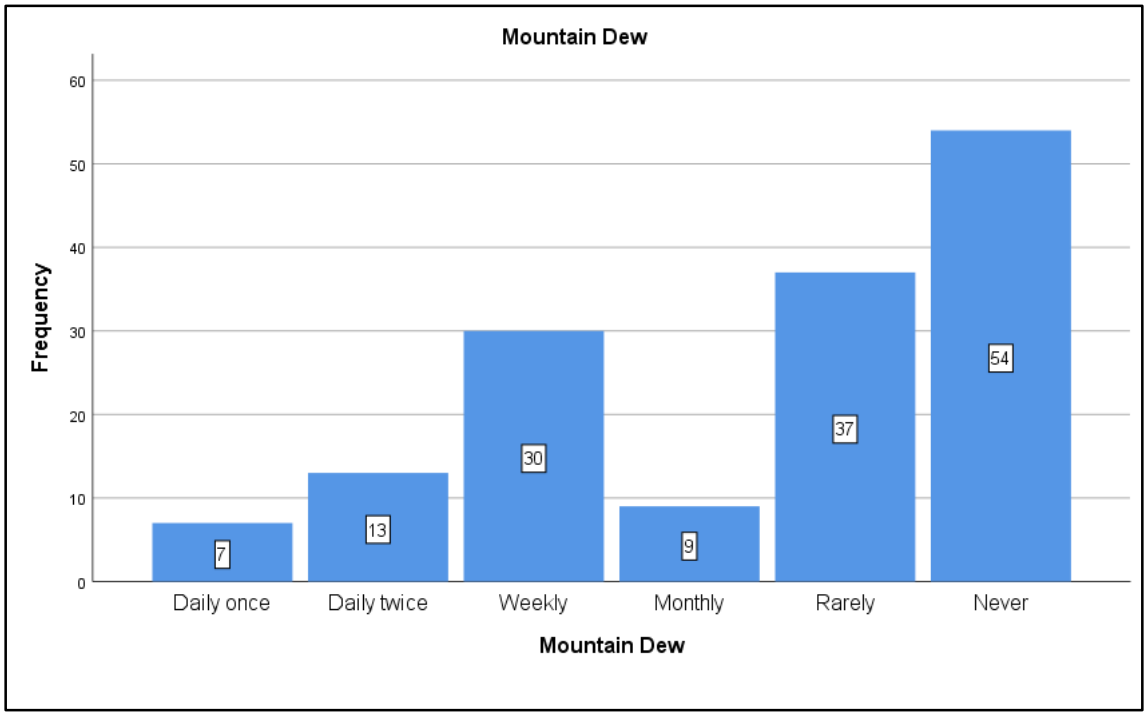


The descriptive analysis from Table 31 reveals that 13 respondents (8.7%) consumed Thums Up daily once, 9 respondents (6%) daily twice, 44 respondents (29.3%) weekly, 41 respondents (27.3%) monthly, 12 respondents (8%) rarely, and 31 respondents (20.7%) never consumed Thums Up.This indicates frequent weekly and monthly consumption.

Table 32: Descriptive analysis of Consumption Pattern of Mountain Dew in the study population.

Mountain Dew	Frequency	Percent
Daily once	7	4.7
Daily twice	13	8.7
Weekly	30	20.0
Monthly	9	6.0
Rarely	37	24.7
Never	54	36.0
Total	150	100.0

Figure 32: Bar Chart for Consumption Pattern of Mountain Dew in the study population.

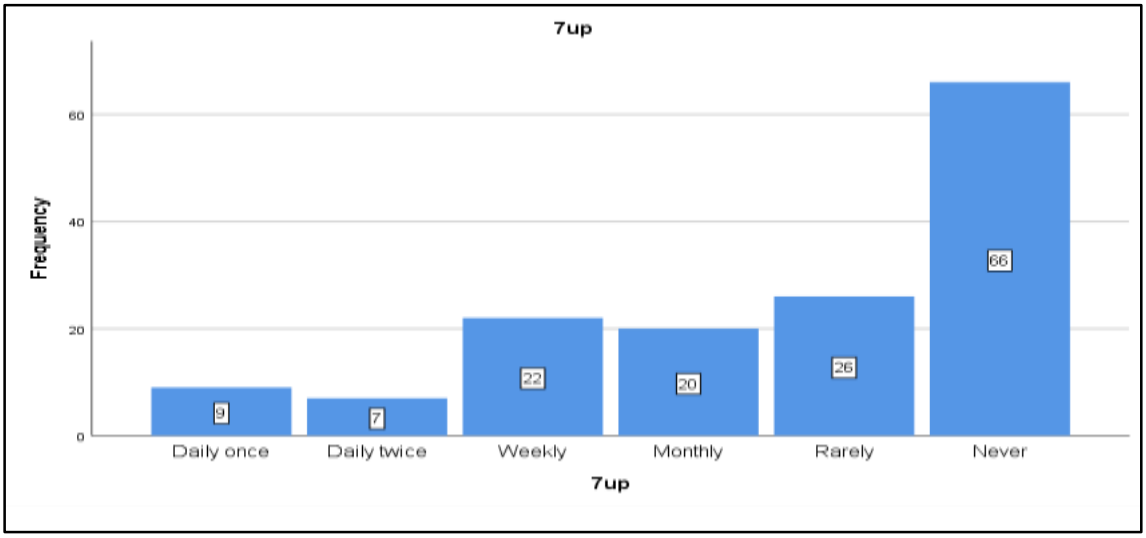


The descriptive analysis from Table 32 shows that 7 respondents (4.7%) consumed Mountain Dew daily once, 13 respondents (8.7%) daily twice, 30 respondents (20%) weekly, 9 respondents (6%) monthly, 37 respondents (24.7%) rarely, and 54 respondents (36%) never consumed Mountain Dew.This indicates lower preference for Mountain Dew.

Table 33: Descriptive analysis of Consumption Pattern of 7-Up in the study population.

7up	Frequency	Percent
Daily once	9	6.0
Daily twice	7	4.7
Weekly	22	14.7
Monthly	20	13.3
Rarely	26	17.3
Never	66	44.0
Total	150	100.0

Figure 33: Bar Chart for Consumption Pattern of 7-Up in the study population.

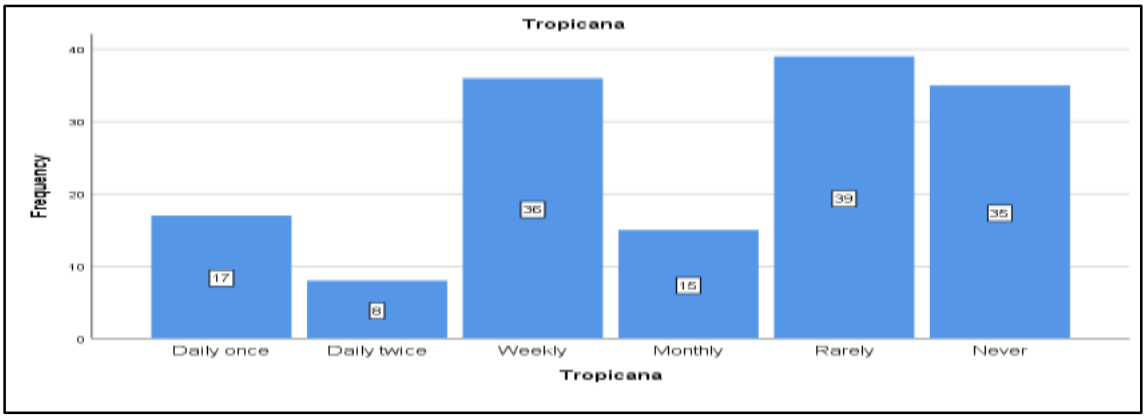


The descriptive analysis from Table 33 reveals that 9 respondents (6%) consumed 7-Up daily once, 7 respondents (4.7%) daily twice, 22 respondents (14.7%) weekly, 20 respondents (13.3%) monthly, 26 respondents (17.3%) rarely, and 66 respondents (44%) never consumed 7-Up.This shows high non-consumption of 7-Up.

Table 34: Descriptive analysis of Consumption Pattern of Tropicana in the study population.

Tropicana	Frequency	Percent
Daily once	17	11.3
Daily twice	8	5.3
Weekly	36	24.0
Monthly	15	10.0
Rarely	39	26.0
Never	35	23.3
Total	150	100.0

Figure 34: Bar Chart for Consumption Pattern of Tropicana in the study population.

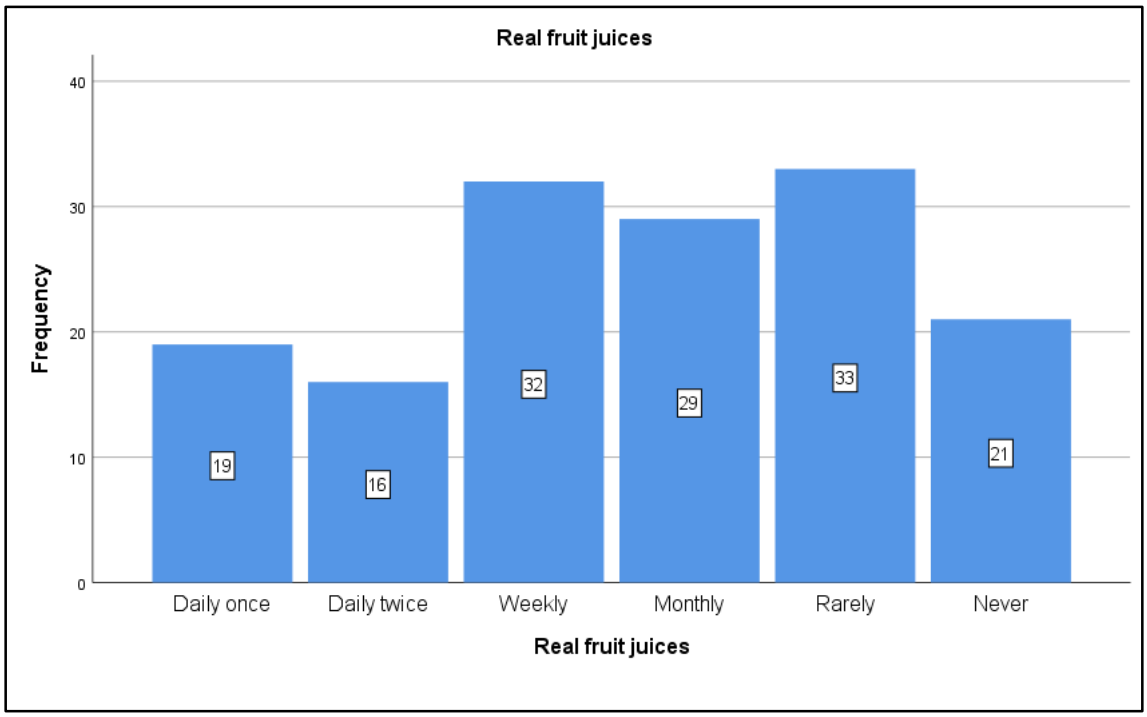


The descriptive analysis from Table 34 shows that 17 respondents (11.3%) consumed Tropicana daily once, 8 respondents (5.3%) daily twice, 36 respondents (24%) weekly, 15 respondents (10%) monthly, 39 respondents (26%) rarely, and 35 respondents (23.3%) never consumed Tropicana.This indicates moderate weekly consumption of packaged fruit juice.

Table 35: Descriptive analysis of Consumption Pattern of Real Fruit Juice in the study population.

Real fruit juices	Frequency	Percent
Daily once	19	12.7
Daily twice	16	10.7
Weekly	32	21.3
Monthly	29	19.3
Rarely	33	22
Never	21	14
Total	150	100

Figure 35: Bar Chart for Consumption Pattern of Real Fruit Juice in the study population.



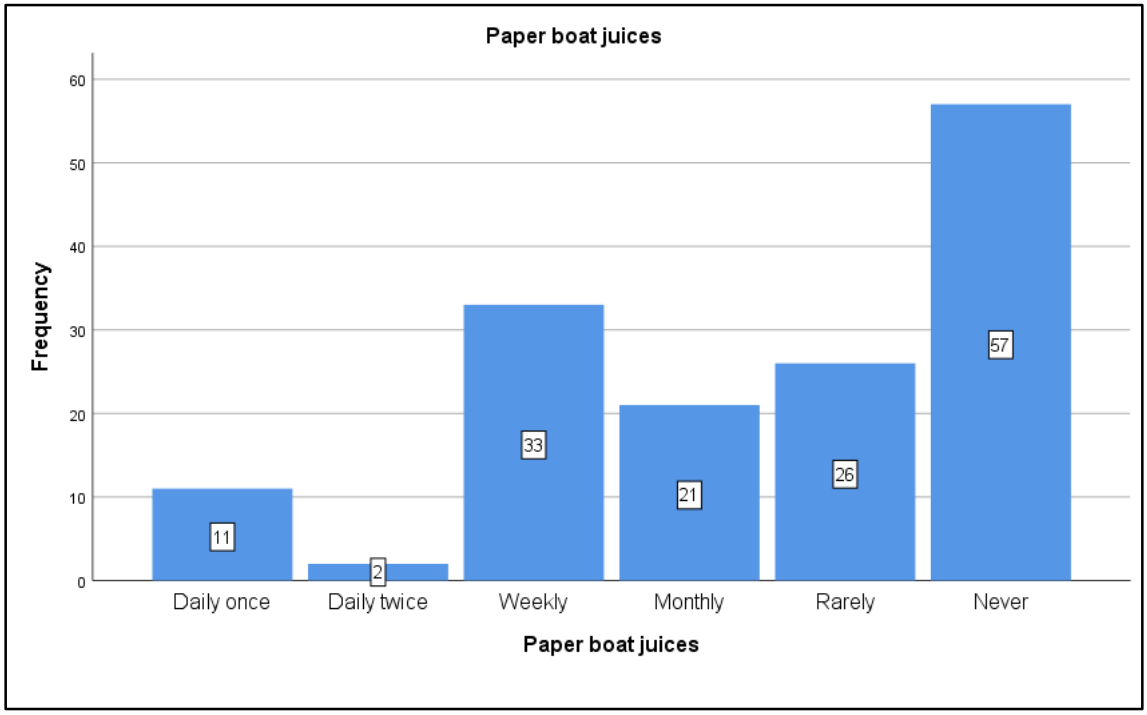
The descriptive analysis from Table 35 reveals that 19 respondents (12.7%) consumed Real fruit juice daily once, 16 respondents (10.7%) daily twice, 32 respondents (21.3%) weekly, 29 respondents (19.3%) monthly, 33 respondents (22%) rarely, and 21 respondents (14%) never consumed Real fruit juice.This shows relatively higher acceptance compared to other packaged juices.

Table 36: Descriptive analysis of Consumption Pattern of Paper Boat Juice in the study population.

Paper boat juices	Frequency	Percent
Daily once	11	7.3
Daily twice	2	1.3
Weekly	33	22

Monthly	21	14
Rarely	26	17.3
Never	57	38
Total	150	100

Figure 36: Bar Chart for Consumption Pattern of Paper Boat Juice in the study population.

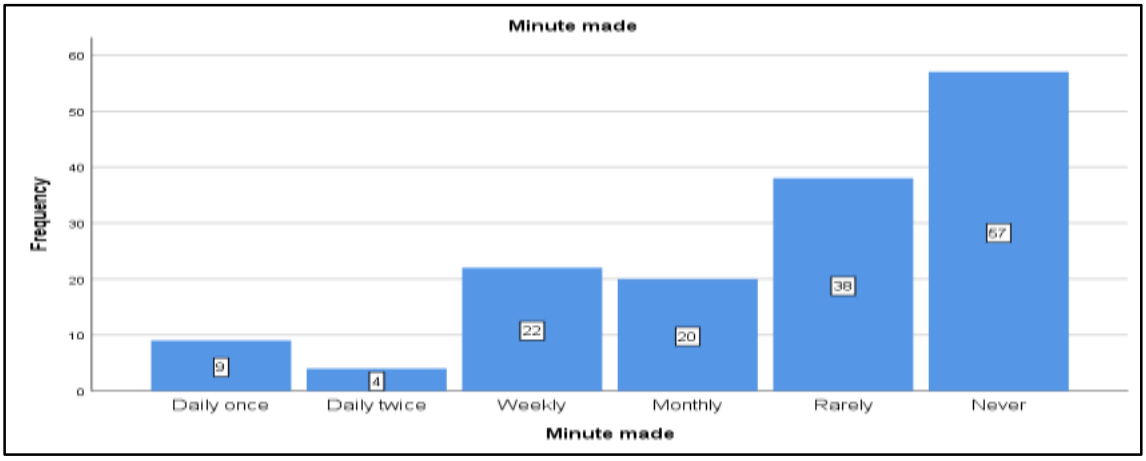


The descriptive analysis from Table 36 shows that 11 respondents (7.3%) consumed Paper Boat juice daily once, 2 respondents (1.3%) daily twice, 33 respondents (22%) weekly, 21 respondents (14%) monthly, 26 respondents (17.3%) rarely, and 57 respondents (38%) never consumed Paper Boat juice.This indicates limited regular consumption.

Table 37: Descriptive analysis of Consumption Pattern of Minute Maid

Minute made	Frequency	Percent
Daily once	9	6.0
Daily twice	4	2.7
Weekly	22	14.7
Monthly	20	13.3
Rarely	38	25.3
Never	57	38.0
Total	150	100.0

Figure 37: Bar Chart for Consumption Pattern of Minute Maid in the study population.

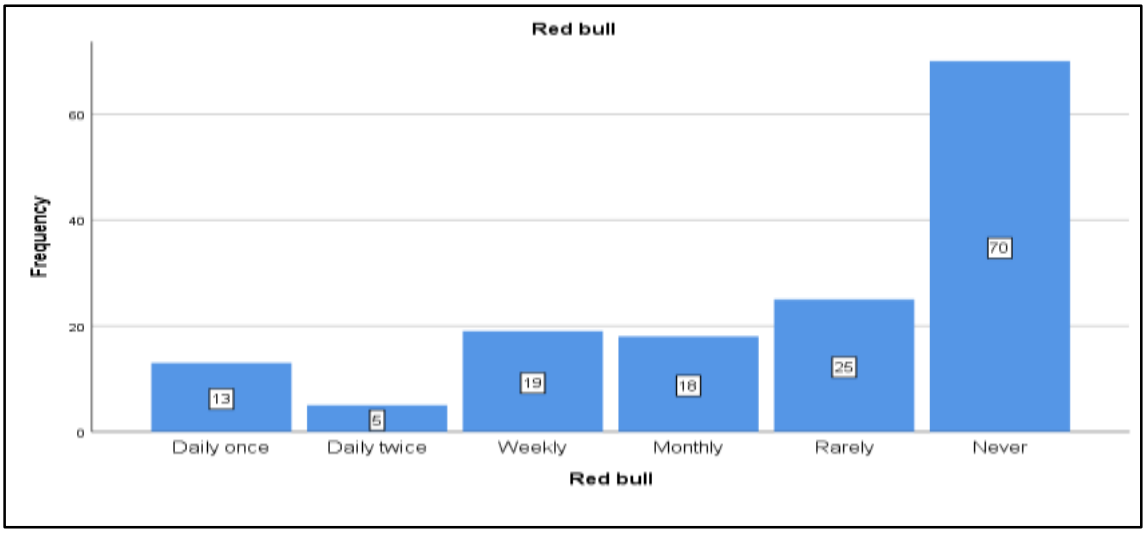


The descriptive analysis from Table 37 reveals that 9 respondents (6%) consumed Minute Maid daily once, 4 respondents (2.7%) daily twice, 22 respondents (14.7%) weekly, 20 respondents (13.3%) monthly, 38 respondents (25.3%) rarely, and 57 respondents (38%) never consumed Minute Maid.This shows low preference for this beverage.

Table 38: Descriptive analysis of Consumption Pattern of Red Bull in the study population.

Red bull	Frequency	Percent
Daily once	13	8.7
Daily twice	5	3.3
Weekly	19	12.7
Monthly	18	12.0
Rarely	25	16.7
Never	70	46.7
Total	150	100.0

Figure 38 : Bar Chart for Consumption Pattern of Red Bull in the study population.

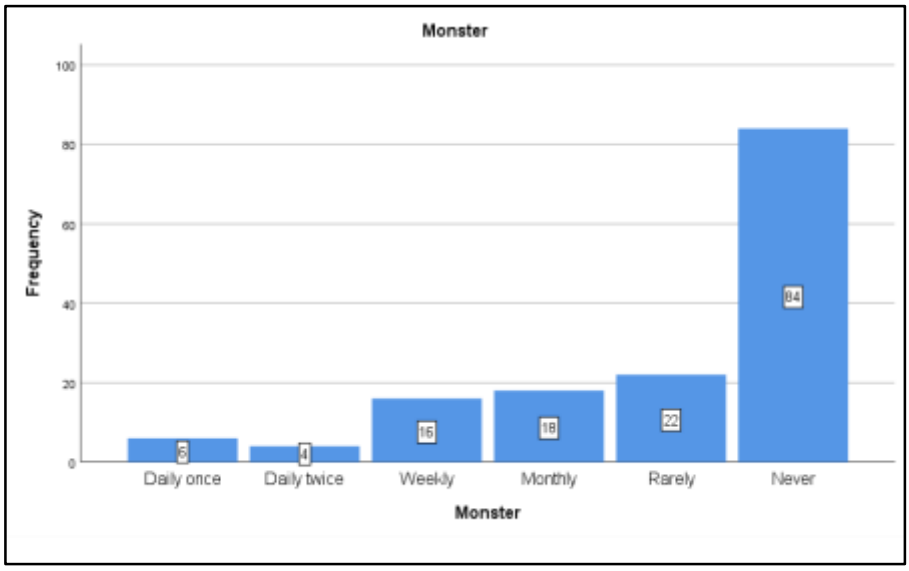


The descriptive analysis from Table 38 shows that 13 respondents (8.7%) consumed Red Bull daily once, 5 respondents (3.3%) daily twice, 19 respondents (12.7%) weekly, 18 respondents (12%) monthly, 25 respondents (16.7%) rarely, and 70 respondents (46.7%) never consumed Red Bull . This indicates high avoidance of energy drinks.

Table 39: Descriptive analysis of Consumption Pattern of Monster in the study population.

Monster	Frequency	Percent
Daily once	6	4.0
Daily twice	4	2.7
Weekly	16	10.7
Monthly	18	12.0
Rarely	22	14.7
Never	84	56.0
Total	150	100.0

Figure 39 : Bar Chart for Consumption Pattern of Monster in the study population.

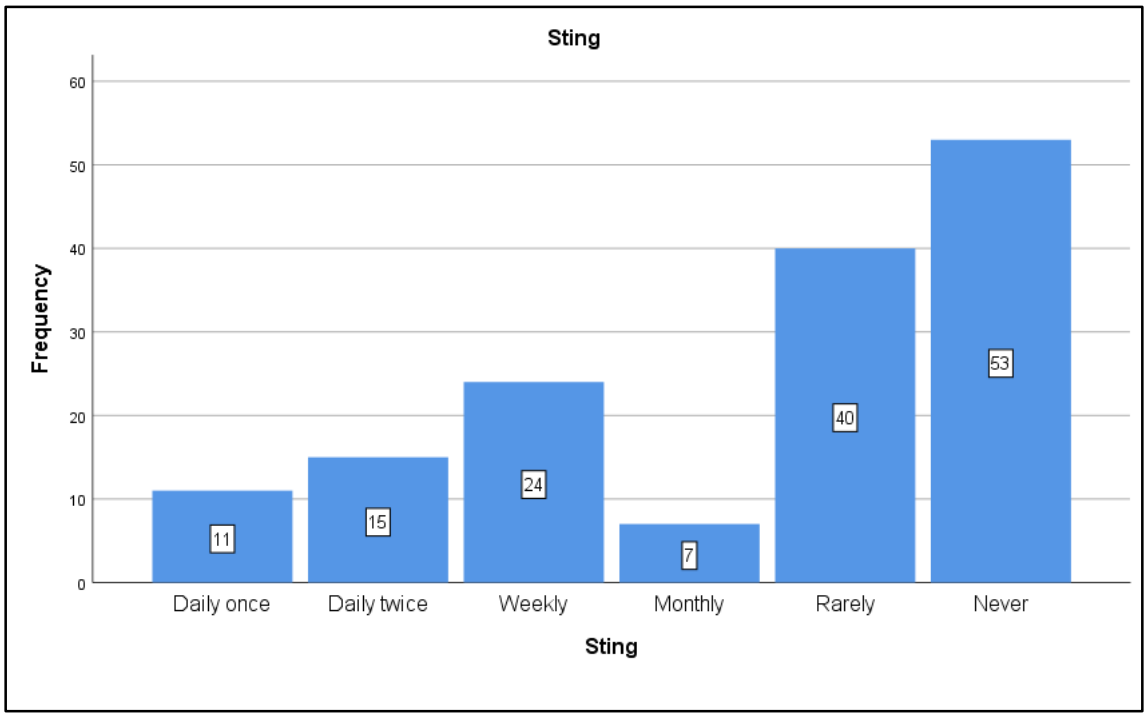


The descriptive analysis from Table 39 reveals that 6 respondents (4%) consumed Monster daily once, 4 respondents (2.7%) daily twice, 16 respondents (10.7%) weekly, 18 respondents (12%) monthly, 22 respondents (14.7%) rarely, and 84 respondents (56%) never consumed Monster.This shows very low consumption of Monster energy drink.

Table 40: Descriptive analysis of Consumption Pattern of Sting in the study population.

Sting	Frequency	Percent
Daily once	11	7.3
Daily twice	15	10
Weekly	24	16
Monthly	7	4.7
Rarely	40	26.7
Never	53	35.3
Total	150	100

Figure 40 : Bar Chart for Consumption Pattern of Sting in the study population.

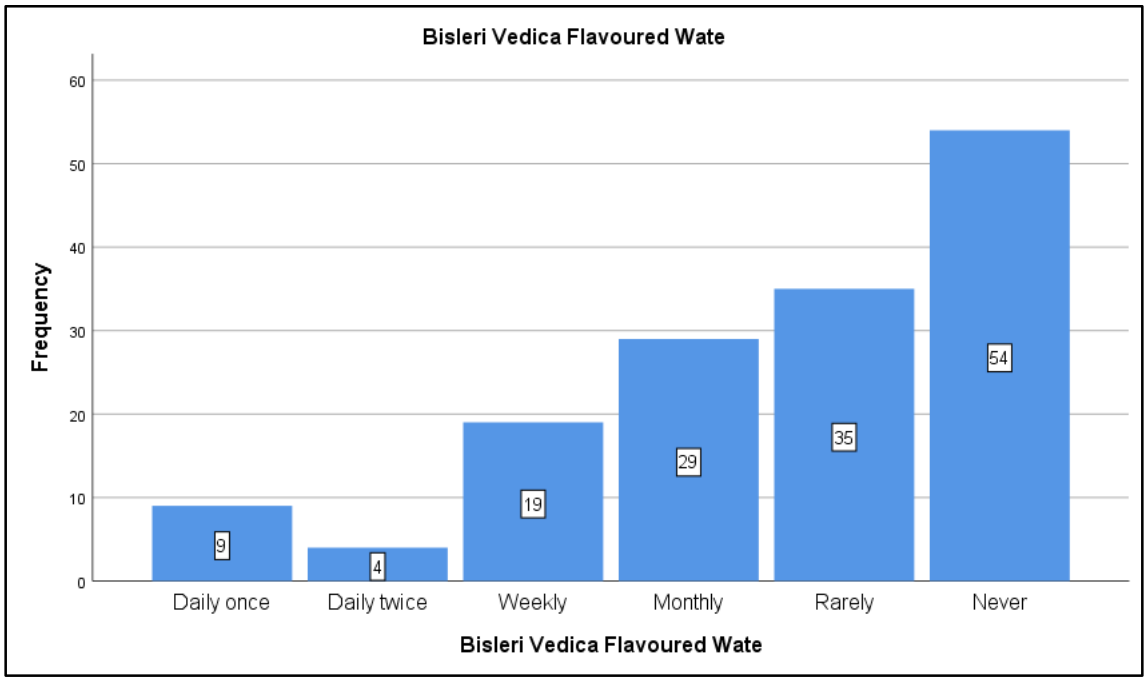


The descriptive analysis from Table 40 shows that 11 respondents (7.3%) consumed Sting daily once, 15 respondents (10%) daily twice, 24 respondents (16%) weekly, 7 respondents (4.7%) monthly, 40 respondents (26.7%) rarely, and 53 respondents (35.3%) never consumed Sting.This indicates limited and irregular consumption of Sting.

Table 41: Descriptive analysis of Consumption Pattern of Bisleri Vedica Flavoured Water

Bisleri Vedica Flavoured Water	Frequency	Percent
Daily once	9	6.0
Daily twice	4	2.7
Weekly	19	12.7
Monthly	29	19.3
Rarely	35	23.3
Never	54	36.0
Total	150	100.0

Figure 41 : Bar Chart for Consumption Pattern of Bisleri Vedica Flavoured Water in the study population.

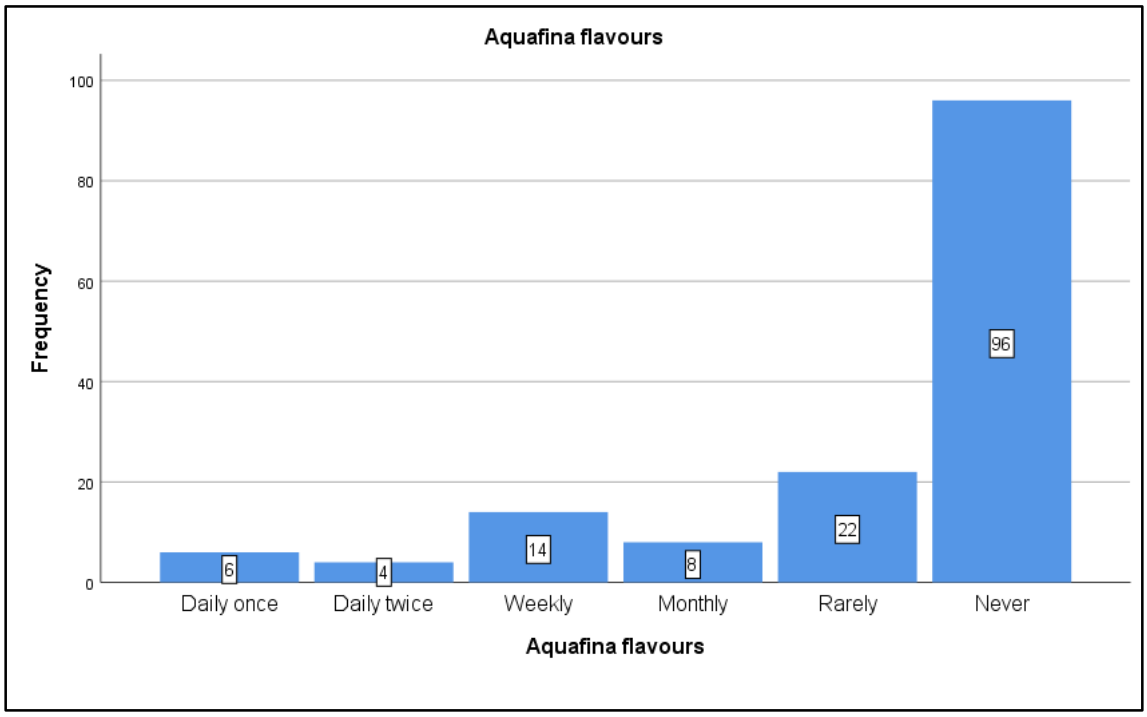


The descriptive analysis of Table 41 reveals that 9 respondents (6%) consumed Bisleri Vedica flavoured water daily once, 4 respondents (2.7%) daily twice, 19 respondents (12.7%) weekly, 29 respondents (19.3%) monthly, 35 respondents (23.3%) rarely, and 54 respondents (36%) never consumed Bisleri Vedica flavoured water.This shows that a large proportion of respondents had low or no regular consumption of this flavoured water.

Table 42: Descriptive analysis of Consumption Pattern of Aquafina Flavoured Water in the study population.

Aquafina flavours	Frequency	Percent
Daily once	6	4.0
Daily twice	4	2.7
Weekly	14	9.3
Monthly	8	5.3
Rarely	22	14.7
Never	96	64.0
Total	150	100.0

Figure 42 : Bar Chart for Consumption Pattern of Aquafina Flavoured Water in the study population.

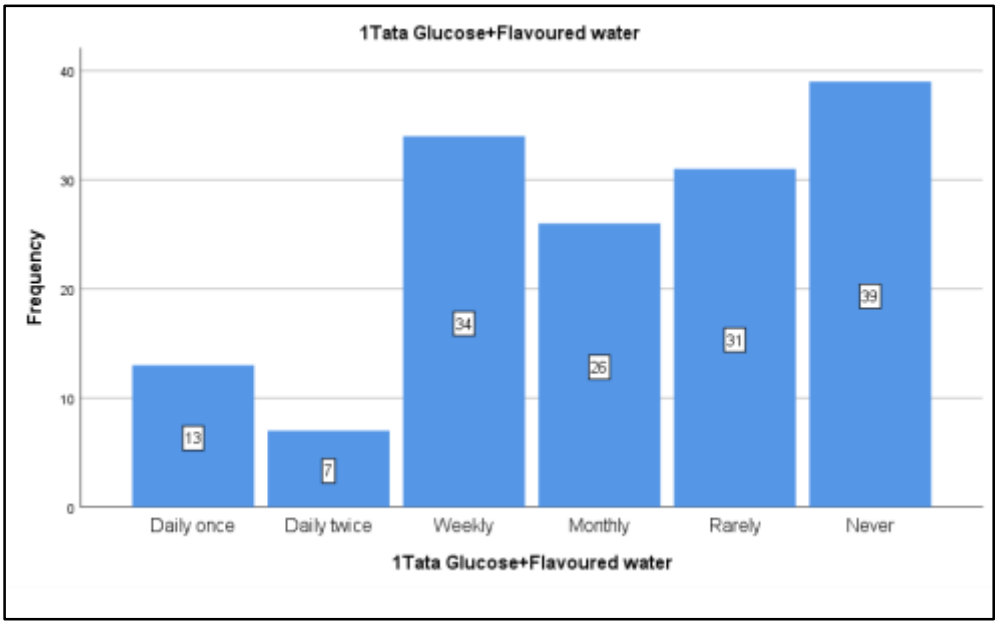


The descriptive analysis from Table 42 shows that 6 respondents (4%) consumed Aquafina flavoured water daily once, 4 respondents (2.7%) daily twice, 14 respondents (9.3%) weekly, 8 respondents (5.3%) monthly, 22 respondents (14.7%) rarely, and 96 respondents (64%) never consumed Aquafina flavoured water.This indicates very high non-consumption of Aquafina flavoured water among the respondents.

Table 43: Descriptive analysis of Consumption Pattern of Tata Glucose+ Flavoured Water in the study population.

1Tata Glucose+Flavoured water	Frequency	Percent
Daily once	13	8.7
Daily twice	7	4.7
Weekly	34	22.7
Monthly	26	17.3
Rarely	31	20.7
Never	39	26
Total	150	100

Figure 43 : Bar Chart for Consumption Pattern of Tata Glucose+ Flavoured Water in the study population.

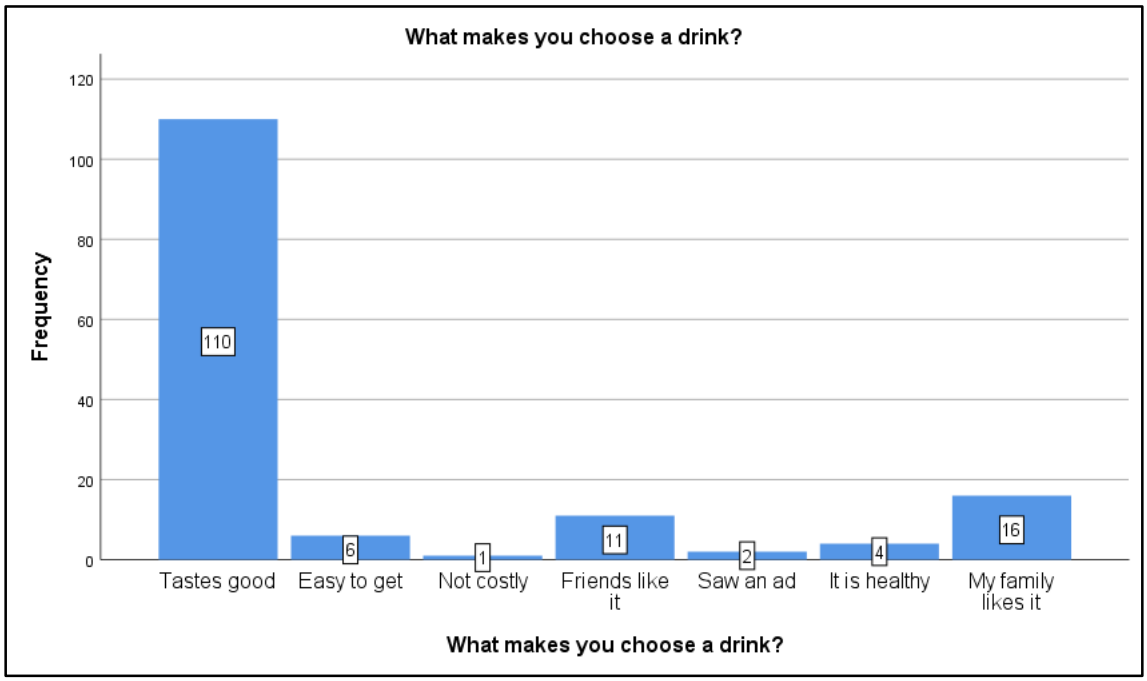


The descriptive analysis from Table 43 reveals that 13 respondents (8.7%) consumed Tata Glucose+ flavoured water daily once, 7 respondents (4.7%) daily twice, 34 respondents (22.7%) weekly, 26 respondents (17.3%) monthly, 31 respondents (20.7%) rarely, and 39 respondents (26%) never consumed Tata Glucose+ flavoured water.This shows that Tata Glucose+ flavoured water was mainly consumed on a weekly or occasional basis, with a considerable proportion reporting non-consumption.

Table 44: Descriptive analysis of Factors Influencing the Choice of Beverages in the study population.

What makes you choose a drink?	Frequency	Percent
Tastes good	110	73.3
Easy to get	6	4
Not costly	1	0.7
Friends like it	11	7.3
Saw an ad	2	1.3
It is healthy	4	2.7
My family likes it	16	10.7
Total	150	100

Figure 44 : Bar Chart for Factors Influencing the Choice of Beverages in the study population.



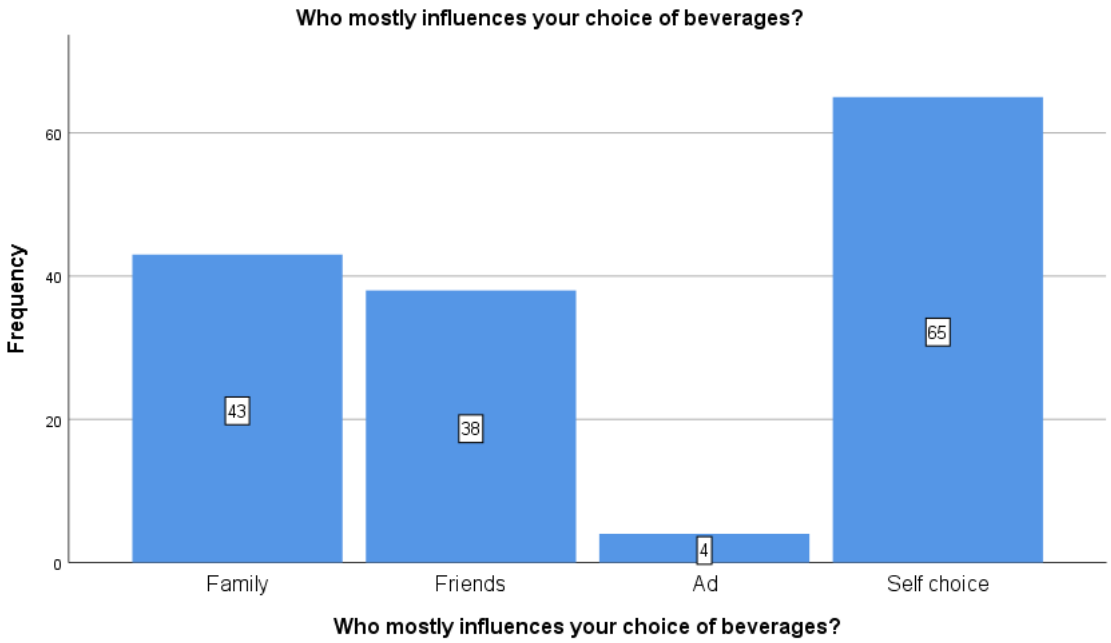
The descriptive analysis from Table 44 reveals that 110 respondents (73.3%) reported taste as the main factor influencing their choice of beverages. This was followed by 16 respondents (10.7%) who reported family preference, 11 respondents (7.3%) influenced by friends, 6 respondents (4%) by easy availability, 4 respondents (2.7%) by health reasons, 2 respondents (1.3%) by advertisements, and 1 respondent (0.7%) by cost.This shows that taste was the most dominant factor influencing beverage choice among adolescents.

…

Table 45: Descriptive analysis of Influence on Beverage Choice in the study population.

Who mostly influences your choice of beverages?	Frequency	Percent
Family	43	28.7
Friends	38	25.3
Ad	4	2.7
Self choice	65	43.3
Total	150	100.0

Figure 45 : Bar Chart for Influence on Beverage Choice in the study population

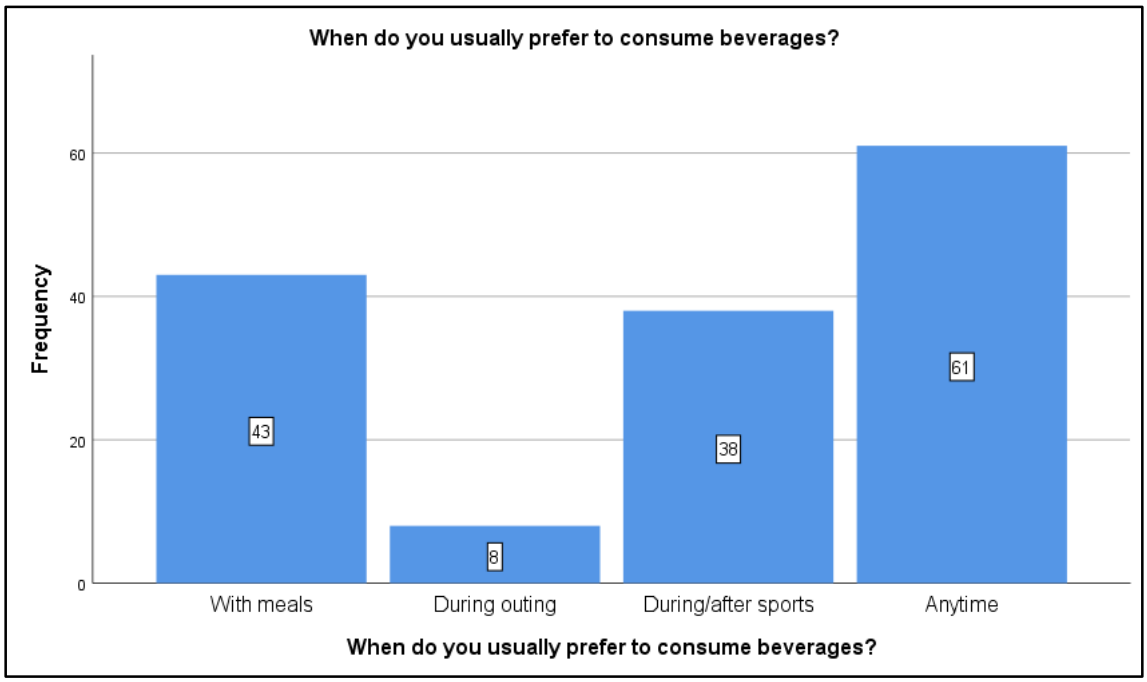


The descriptive analysis from Table 45 shows that 65 respondents (43.3%)*reported self-choice as the major influence on beverage selection. This was followed by 43 respondents (28.7%) influenced by family, 38 respondents (25.3%)* influenced by friends, and 4 respondents (2.7%) influenced by advertisements.This indicates that personal preference and family influence played a major role in beverage choice.

Table 46: Descriptive analysis of Time of Beverage Consumption in the study population.

When do you usually prefer to consume beverages?	Frequency	Percent
With meals	43	28.7
During outing	8	5.3
During/after sports	38	25.3
Anytime	61	40.7
Total	150	100

Figure 46 : Bar Chart for Time of Beverage Consumption in the study population.

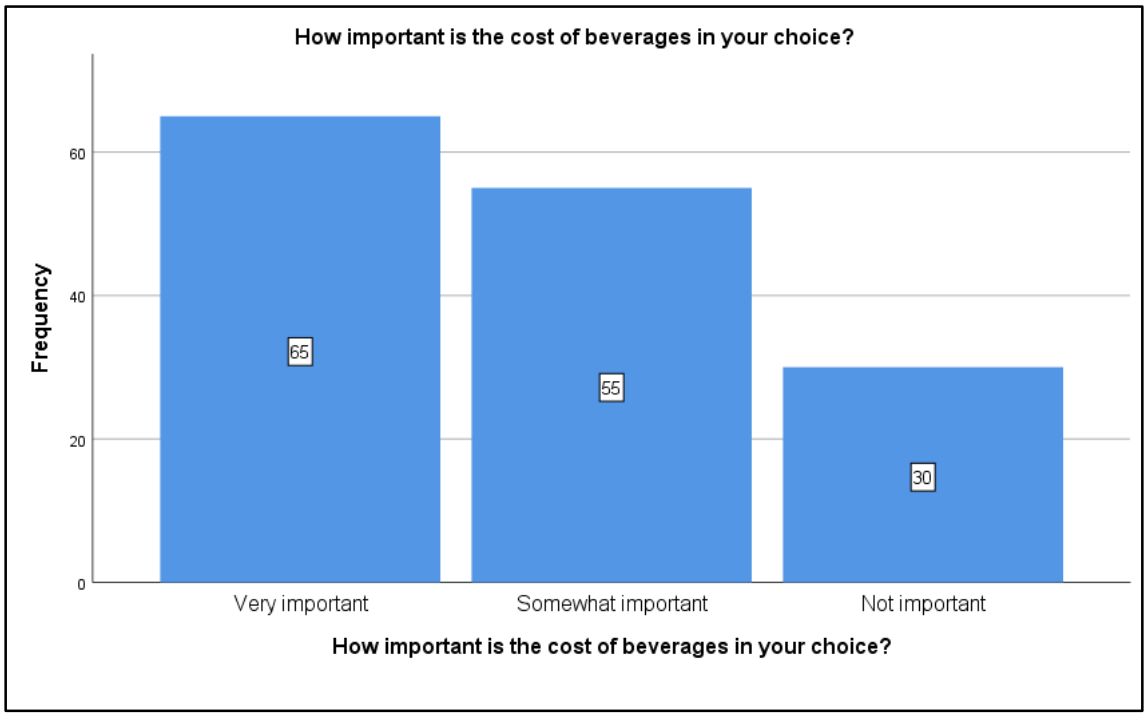


The descriptive analysis from Table 46 reveals that 61 respondents (40.7%) consumed beverages at any time, 43 respondents (28.7%) consumed beverages with meals, 38 respondents (25.3%) consumed beverages during or after sports, and 8 respondents (5.3%) consumed beverages during outings.This shows that beverage consumption occurred at varied times throughout the day.

Table 47: Descriptive analysis of Importance of Cost in Beverage Choice in the study population.

How important is the cost of beverages in your choice?	Frequency	Percent
Very important	65	43.3
Somewhat important	55	36.7
Not important	30	20
Total	150	100

Figure 47 : Bar Chart for Importance of Cost in Beverage Choice in the study population.



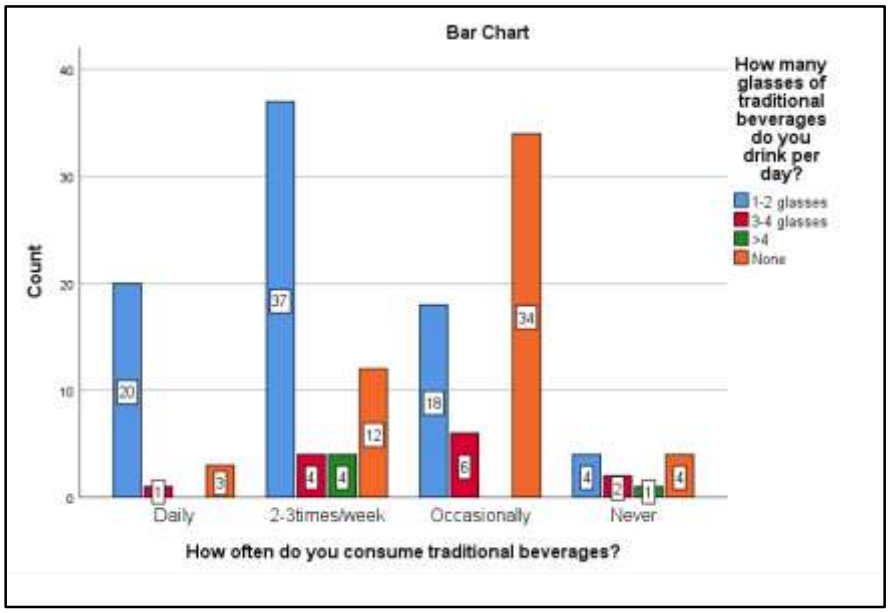
The descriptive analysis from Table 47 shows that 65 respondents (43.3%) considered the cost of beverages very important, 55 respondents (36.7%) considered it somewhat important, and 30 respondents (20%) considered it not important.This indicates that cost was an important consideration for a majority of respondents.

Table 48: Descriptive analysis of Association Between Frequency and Quantity of Traditional Beverage Consumption in the study population.

How often do you consume traditional beverages?	How many glasses of Traditional beverage do you drink per day?				Total
	1-2 glasses	3-4 glasses	>4	None	
Daily	20	1	0	3	24
2-3times/week	37	4	4	12	57
Occasionally	18	6	0	34	58
Never	4	2	1	4	11
Total	79	13	5	53	150

X^2-35.579[a] df-9 p-.000

Figure 48 : Bar Chart for Association Between Frequency and Quantity of Traditional Beverage Consumption in the study population.



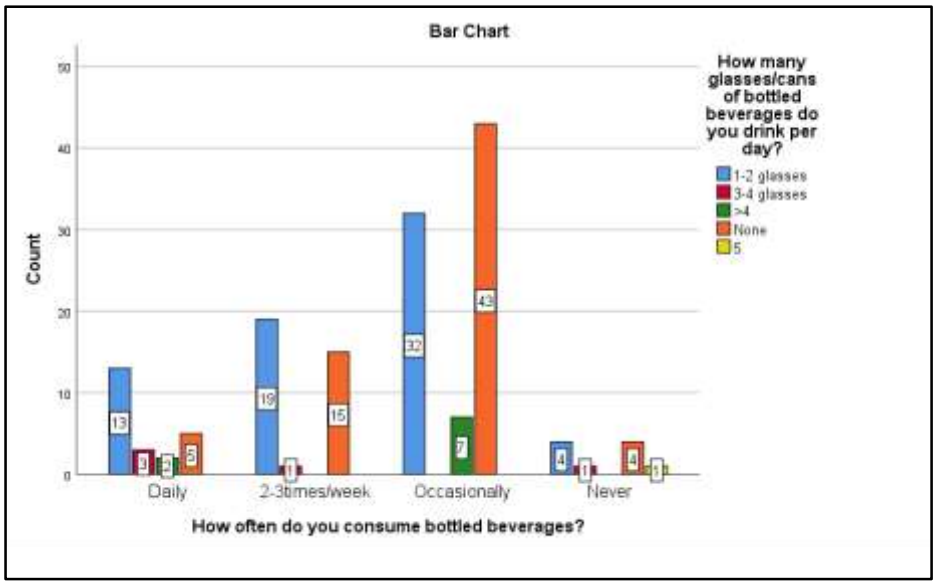
The descriptive analysis from Table 48 reveals that the chi-square test showed a statistically significant association* between frequency and quantity of traditional beverage consumption with a value of χ^2 = 35.579, degrees of freedom = 9, and p < 0.001.This shows that the frequency of consumption was related to the quantity consumed.

Table 49: Descriptive analysis of Association Between Frequency and Quantity of Bottled Beverage Consumption in the study population.

How often do you consume bottled beverages? * How many glasses/cans of Bottled beverage do you drink per day? Crosstabulation	How many glasses/cans of Bottled beverage do you drink per day?					Total
	1-2 glasses	3-4 glasses	>4	None	5	
Daily	13	3	2	5	0	23
2-3times/week	19	1	0	15	0	35
Occasionally	32	0	7	43	0	82
Never	4	1	0	4	1	10
Total	68	5	9	67	1	150

X^2-34.381[a] df-12 p-.001

Figure 49 : Bar Chart for Association Between Frequency and Quantity of Bottled Beverage Consumption in the study population.



The descriptive analysis from Table 49 shows a statistically significant association between frequency and quantity of bottled beverage consumption with a value of $\chi^2 = 34.381$, degrees of freedom = 12, and p = 0.001.This indicates a relationship between frequency and quantity of bottled beverage intake.

Table 50: Descriptive analysis of Gender and Knowledge of Traditional Beverages in the study population.

Gender	traditional drinks knowledge								Total
	Buttermilk	Coconut water	Ragi malt	Rice kanji	Lemon water	Ambali	Pacchi pulusu	Panakam	
Male	51	50	50	51	51	50	50	50	51
female	90	74	83	86	95	84	82	84	99
Total	141	124	133	137	146	134	132	134	150

The descriptive analysis from Table 50 reveals that knowledge of traditional beverages such as buttermilk, coconut water, ragi malt, rice kanji, lemon water, ambali, pacchi pulusu, and panakam was reported by both male and female respondents, with female respondents showing slightly higher frequencies across most beverages.This shows **variation in traditional beverage knowledge by gender.**

Table 51: Descriptive analysis of Gender and Knowledge of Bottled Beverages in the study population.

Gender	knowledge on bottled drinks					Total
	Soft drink	Packaged juices	Energy drinks	Flavoured water	All the above	
Male	51	51	51	51	49	51
female	99	97	99	95	95	99
Total	150	148	150	146	144	150

The descriptive analysis from Table 51 shows that knowledge of bottled beverages including soft drinks, packaged juices, energy drinks, flavoured water, and all types was high among both male and female respondents.This indicates **uniform awareness of bottled beverages across genders.**

Table 52: Descriptive analysis of Gender and Perceived Benefits of Traditional Beverages in the study population.

Gender	traditional drinks benefits					Total
	Nutritious	Natural	Cooling	Affordable	Easy to prepare	
Male	50	51	51	50	34	51
female	84	81	79	52	68	99
Total	134	132	130	102	102	150

The descriptive analysis from Table 52 reveals that respondents of both genders identified traditional beverages as nutritious, natural, cooling, affordable, and easy to prepare, with higher frequencies reported among females for most benefits.This shows **positive perception of traditional beverage benefits among both genders.**

Table 53: Descriptive analysis of Gender and Perceived Disadvantages of Bottled Beverages in the study population.

Gender	Disadvantages of bottled drinking				Total
	High sugar	Additives	Expensive	Harmful	
Male	51	51	51	51	51
female	78	52	39	81	99
Total	129	103	90	132	150

The descriptive analysis from Table 53 shows that both male and female respondents reported high sugar content, additives, high cost, and harmful effects as disadvantages of bottled beverages, with slightly higher reporting among females.This indicates **awareness of bottled beverage disadvantages across genders.**

Table 54: Descriptive analysis of Grade and Knowledge of Traditional Beverages in the study population.

Grade	traditional drinks knowledge								Total
	Buttermilk	Coconut water	Ragi malt	Rice kanji	Lemon water	Ambali	Pacchi pulusu	Panakam	
9th	90	74	83	86	95	84	82	84	99
10th	51	50	50	51	51	50	50	50	51
Total	141	124	133	137	146	134	132	134	150

The descriptive analysis from Table 54 reveals that students from both 9th and 10th grades reported knowledge of traditional beverages, with 9th-grade students showing higher frequencies across most beverage types.This shows **variation in knowledge of traditional beverages by grade level.**

Table 55: Descriptive analysis of Grade and Knowledge of Bottled Beverages in the study population.

Grade	knowledge on bottled drinks					Total
	Soft drink	Packaged juices	Energy drinks	Flavoured water	All the above	
9th	99	97	99	95	95	99
10th	51	51	51	51	49	51
Total	150	148	150	146	144	150

The descriptive analysis from Table 55 reveals that students from both 9th and 10th grades reported knowledge of traditional beverages, with 9th-grade students showing higher frequencies across most beverage types.This shows **variation in knowledge of bottled beverages by grade level.**

Table 56: Descriptive analysis of Grade-wise Distribution of Perceived Disadvantages of Bottled Drinks in the study population.

Grade	Disadvantages of bottled drinking				Total
	High sugar	Additives	Expensive	Harmful	
9th	78	52	39	81	99
10th	51	51	51	51	51
Total	129	103	90	132	150

The descriptive analysis from Table 56 shows the perceived disadvantages of bottled drinks among 9th and 10th-grade students. Among 9th-grade students, 78 reported high sugar content, 52 additives, 39 expensive nature, and 81 harmful effects. Among 10th-grade students, 51 reported each of the disadvantages, including high sugar, additives, expensive, and harmful effects. Overall, 129 respondents reported high sugar content, 103 additives, 90 expensive nature, and 132 harmful effects.This indicates that **harmful effects and high sugar content were the most commonly reported disadvantages.**

Table 57: Descriptive analysis of Association Between Awareness of Traditional Beverages and Knowledge of Traditional Drinks in the study population.

The descriptive analysis from Table 57 reveals the association between awareness of traditional beverages and knowledge of individual traditional drinks. Among respondents who were aware (n = 84), knowledge was highest for lemon water (81), buttermilk (79), rice kanji (79), coconut water (77), panakam (76), ragi malt (75), ambali (75), and pacchi pulusu (72). Among respondents who were not aware (n = 66), knowledge levels were lower across all beverages.This shows that **awareness was associated with higher knowledge of traditional drinks.**

Do you know what traditional beverages /drinks are?	traditional drinks knowledge								Total
	Butter milk	Coco nut water	Ragi malt	Rice kanji	Lemon water	Ambali	Pacchi pulusu	Panakam	
Yes	79	77	75	79	81	75	72	76	84
No	62	47	58	58	65	59	60	58	66
Total	141	124	133	137	146	134	132	134	150

Table 58: Descriptive analysis of Association Between Awareness of bottled Beverages and Knowledge of Bottled Drinks in the study population.

Do you know what bottled beverages/drinks are?	knowledge on bottled drinks					Total
	Soft drink	Packaged juices	Energy drinks	Flavoured water	All the above	
Yes	84	84	84	81	79	84
No	66	64	66	65	65	66
Total	150	148	150	146	144	150

The descriptive analysis from *Table 58* shows knowledge of bottled drinks among respondents based on awareness of bottled beverages. Among those aware (n = 84), 84 knew about soft drinks, packaged juices, and energy drinks, 81 knew flavoured water, and 79 knew all categories. Among those not aware (n = 66), knowledge ranged from 64 to 66 across categories.This indicates high knowledge of bottled drinks.

Table 59: Descriptive analysis of Association Between Awareness of Traditional Beverages and Perceived Disadvantages of Bottled Drinks in the study population.

Do you know what traditional beverages/drinks are?	Disadvantages of bottled drinking				Total
	High sugar	Additives	Expensive	Harmful	
Yes	76	64	59	78	84
No	53	39	31	54	66
Total	129	103	90	132	150

The descriptive analysis from Table 59 reveals that among respondents aware of traditional beverages (n = 84), 76 reported high sugar content, 64 additives, 59 expensive nature, and 78 harmful effects as disadvantages of bottled drinks. Among those not aware (n = 66), fewer respondents reported these disadvantages.This shows greater recognition of bottled drink disadvantages among aware respondents

Table 60: Descriptive analysis of Association Between Awareness of Bottled Beverages and Knowledge of Traditional Drinks in the study population.

Do you know what bottled beverages/drinks are?	traditional drinks knowledge								Total
	Butter milk	Coconut water	Ragi malt	Rice kanji	Lemon water	Ambali	Pacchi pulusu	Panakam	
Yes	141	124	132	136	145	133	131	134	149
No	0	0	1	1	1	1	1	0	1
Total	141	124	133	137	146	134	132	134	150

The descriptive analysis from *Table 60* reveals that respondents who were aware of bottled beverages showed very high knowledge of traditional drinks. Knowledge was reported for buttermilk (*141), coconut water (124), ragi malt (132), rice kanji (136), lemon water (145), ambali (133), pacchi pulusu (131), and panakam (134*). Very few respondents reported lack of knowledge.This indicates overlapping awareness of both beverage types.

Table 61: Descriptive analysis of Association Between Awareness of Bottled Beverages and Knowledge of Bottled Drinks in the study population.

Do you know what bottled beverages/drinks are?	knowledge on bottled drinks					Total
	Soft drink	Packaged juices	Energy drinks	Flavoured water	All the above	
Yes	149	147	149	145	143	149
No	1	1	1	1	1	1
Total	150	148	150	146	144	150

The descriptive analysis from Table 61 shows that among respondents aware of bottled beverages (n = 149), 149 knew soft drinks and energy drinks, 147 packaged juices, 145 flavoured water, and 143 all categories. Only one respondent reported lack of awareness.This shows near-universal knowledge of bottled drinks.

Table 62: Descriptive analysis of Association Between Awareness of Bottled Beverages and Perceived Benefits of Traditional Drinks in the study population.

Do you know what traditional beverages/drinks are?	traditional drinks benefits					Total
	Nutritious	Natural	Cooling	Affordable	Easy to prepare	
Yes	133	131	129	102	102	149
No	1	1	1	0	0	1
Total	134	132	130	102	102	150

The descriptive analysis from Table 62 reveals that respondents aware of traditional beverages (n = 149) perceived traditional drinks as nutritious (133), natural (131), cooling (129), affordable (102), and easy to prepare (102). Only one respondent did not report these benefits.This indicates positive perception of traditional drinks despite bottled beverage awareness.

Table 63: Descriptive analysis of Association Between Awareness of Bottled Beverages and Perceived Disadvantages of Bottled Drinks in the study population.

Do you know what bottled beverages/drinks are?	Disadvantages of bottled drinking				Total
	High sugar	Additives	Expensive	Harmful	
Yes	129	103	90	131	149
No	0	0	0	1	1
Total	129	103	90	132	150

The descriptive analysis from Table 63 shows that among respondents aware of bottled beverages (n = 149), 129 reported high sugar content, 103 additives, 90 expensive nature, and 131 harmful effects. Only one respondent did not report harmful effects.This shows high awareness of the negative aspects of bottled drinks.

DISCUSSION

The present study assessed and compared the knowledge, attitudes, and practices (KAP) related to the consumption of traditional and bottled beverages among adolescents aged 13–15 years studying in a government school in Shamshabad. The findings highlight clear differences between awareness, perceptions, and actual consumption practices, reflecting a complex interaction between cultural knowledge, environmental exposure, and behavioral drivers.

The high level of awareness regarding bottled beverages observed in this study is consistent with global and Indian evidence showing that adolescents are highly exposed to commercially packaged drinks due to aggressive marketing, easy availability, and peer influence . Similar findings have been reported by Okeke et al. (2023) and Pinto et al. (2023), who observed that younger and urban populations tend to recognize and prefer commercial beverages over traditional options due to convenience and brand familiarity.

Although awareness of traditional beverages was also relatively high, detailed knowledge of individual traditional drinks varied, suggesting that cultural transmission through family practices plays a key role in

shaping knowledge (Chanchal et al., 2023; Tamang & Lama, 2023). This aligns with earlier reviews documenting that traditional beverages are often learned informally at home rather than through formal nutrition education (Solange et al., 2014).

In terms of attitudes, most adolescents in the present study perceived traditional beverages as healthier and safer compared to bottled beverages. This perception is supported by several studies demonstrating that traditional and fermented beverages contain beneficial microbes, antioxidants, and bioactive compounds that contribute to gut health and metabolic benefits (Santa et al., 2025; Gebre et al., 2024; Bhattacharya & Khatun, 2024). Similar positive health perceptions of traditional drinks have been reported among local and rural consumers in India and other low- and middle-income settings (Chanchal et al., 2023; Okeke et al., 2023).

Despite favorable attitudes, the actual consumption of traditional beverages among adolescents in this study was irregular and limited, indicating a clear health-belief–practice gap. This finding mirrors earlier research showing that positive beliefs alone are insufficient to influence dietary behavior in adolescents when convenience, taste, and social norms favor commercial products (Pinto et al., 2023). The continued occasional consumption of bottled beverages observed in this study is consistent with findings linking sugar-sweetened beverage intake to taste preference and social identity among adolescents

Taste emerged as the strongest factor influencing beverage choice, followed by family influence and self-choice. This observation aligns with consumer acceptance studies that highlight sensory appeal as a dominant determinant of beverage selection, particularly among adolescents (Campo et al., 2021; Pinto et al., 2023). Family influence on traditional beverage consumption supports findings from Indian and African studies emphasizing the role of household food culture in maintaining traditional dietary practices (Tamang et al., 2016; Solange et al., 2014).

The association analyses in the present study showed significant relationships between frequency and quantity of beverage consumption, reinforcing behavioral theories that repeated exposure increases intake levels. Additionally, associations between demographic variables such as grade and knowledge indicate that education level may influence awareness and perceptions, as also reported by Okeke et al. (2023) and Gebre et al. (2024).

Limited awareness regarding processing, safety standards, and regulatory differences between traditional and bottled beverages was also evident. Similar gaps have been reported in studies highlighting hygiene risks and microbial contamination in unregulated traditional beverages, alongside the higher standardization seen in commercial products (Bello et al., 2024; Mishra et al., 2024; Funtua et al., 2016). This underscores the need for education on safe preparation practices rather than discouragement of traditional beverage consumption.

Overall, the findings of this study are consistent with existing literature and contribute new evidence by providing a direct KAP comparison of traditional and bottled beverages within the same adolescent population, thereby addressing key gaps identified in earlier research (Santa et al., 2025; Okeke et al. (2023)

CHAPTER -5

CONCLUSION:

The present study was conducted with the aim of comparing the knowledge, attitudes, and practices (KAP) related to the consumption of traditional and bottled beverages among adolescents aged 13–15 years studying in a government school in Shamshabad. The findings of the study reveal a distinct contrast between awareness, perceptions, and actual consumption patterns of the two beverage categories within the same socio-demographic setting. Awareness of bottled beverages was found to be almost universal among adolescents, which can be attributed to their easy availability, aggressive marketing strategies, and strong presence in the commercial food environment. In contrast, knowledge of traditional beverages such as buttermilk, coconut water, ragi malt, rice kanji, ambali, pacchi pulusu, and panakam, although relatively high, was less consistent and largely dependent on family practices, cultural exposure, and home-based preparation. Adolescents overwhelmingly perceived traditional beverages as healthier, safer, more natural, and nutritionally beneficial when compared to bottled beverages, which were commonly recognized as high in sugar, containing additives, and potentially harmful to health.

Despite this positive attitude toward traditional beverages, the study identified a clear gap between beliefs and practices. Consumption of traditional beverages was irregular and limited, whereas bottled beverages continued to be consumed, mainly on an occasional basis. This highlights a significant health belief–behavior gap, suggesting that favorable perceptions alone do not necessarily translate into healthier consumption habits among adolescents. The statistically significant association between frequency and quantity of beverage consumption further indicates that repeated exposure and habitual intake strongly influence consumption patterns. Taste emerged as the most dominant factor influencing beverage choice, followed by self-preference, family influence, cost, and ease of availability, emphasizing the role of sensory appeal and convenience over health considerations. Demographic factors such as age, gender, and grade level showed subtle yet meaningful differences in awareness and consumption behaviors, indicating that even within a relatively uniform school population, socio-demographic characteristics contribute to variations in KAP.

A key strength and novelty of this study lies in its integrated assessment of knowledge, attitudes, and practices for both traditional and bottled beverages within the same adolescent population, an approach rarely adopted in existing research. By providing a direct comparison between the two beverage categories, the study offers valuable insights into adolescents' perceptions of health, safety, quality, and harm. While adolescents demonstrated awareness of the negative health impacts of bottled beverages, their understanding of processing methods, additives, regulatory standards, and long-term health implications was limited. Similarly, although traditional beverages were perceived as safe and beneficial, awareness regarding hygiene, standardization, shelf-life, and quality control was minimal, indicating partial and surface-level safety awareness.

The study also highlights underexplored dimensions related to economic and sustainability perceptions. While adolescents showed a preference for traditional beverages, their awareness of the role these beverages play in supporting local producers, preserving indigenous food systems, and promoting environmental sustainability was notably low. This finding points to a missed opportunity for linking traditional beverage promotion with broader goals of cultural preservation, economic empowerment, and sustainable food practices. Overall, the study concludes that improving beverage choices among adolescents requires more than increasing knowledge; it calls for behavior-oriented nutrition education, supportive school and home food environments, culturally rooted interventions, and policy-level efforts. Promoting traditional

beverages among adolescents holds significant potential not only for improving nutritional health but also for sustaining cultural heritage and local food systems, making it a critical and timely public health priority.

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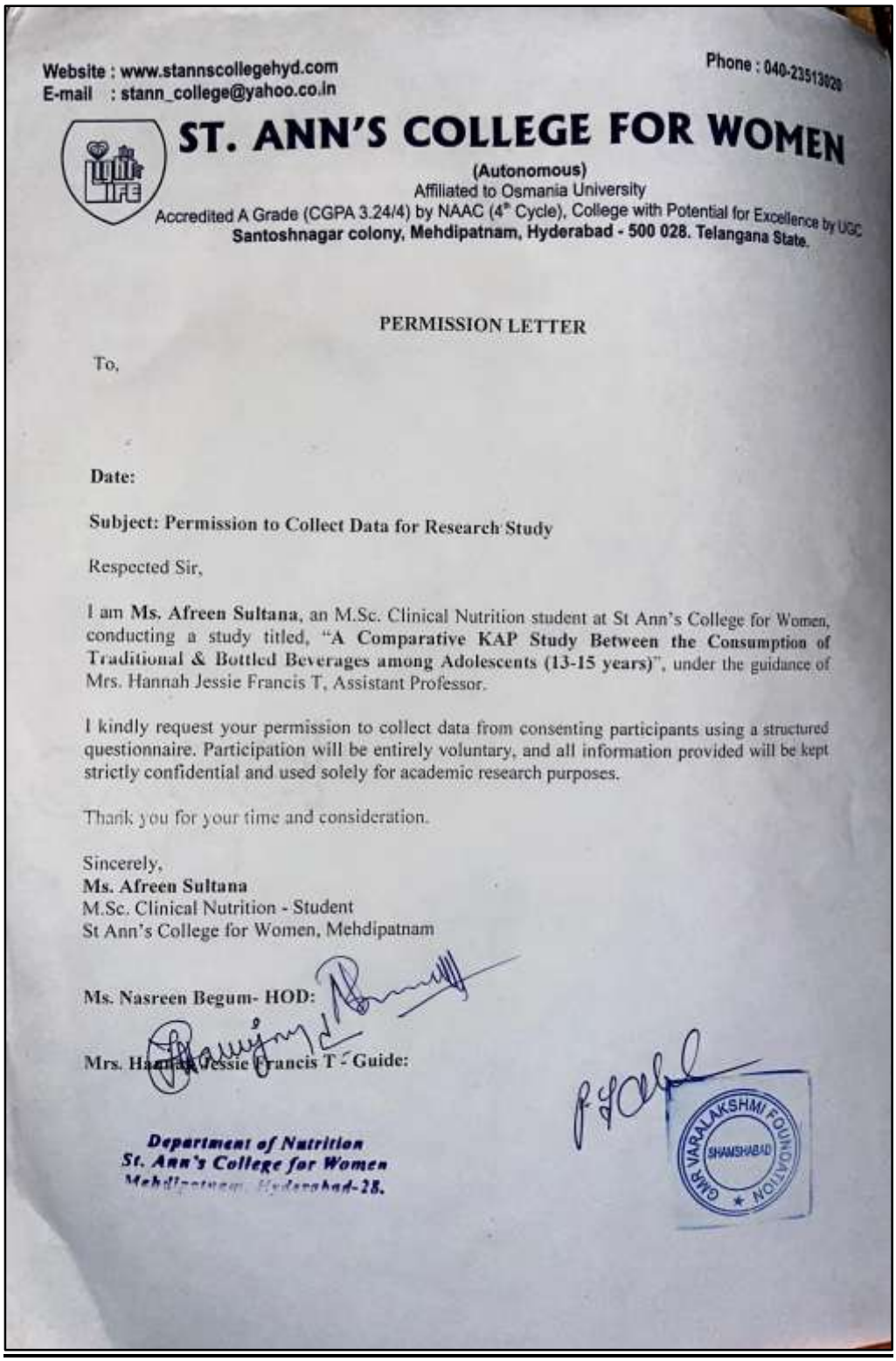
ANNEXURES

ANNEXURE-1: PERMISSION LETTERS FOR DATA COLLECTION



Website : www.stannscollegehyd.com
E-mail : stann_college@yahoo.co.in

Phone : 040-23513020

ST. ANN'S COLLEGE FOR WOMEN

(Autonomous)
Affiliated to Osmania University
Accredited A Grade (CGPA 3.24/4) by NAAC (4th Cycle), College with Potential for Excellence by UGC
Santoshnagar colony, Mehdipatnam, Hyderabad - 500 028. Telangana State.

PERMISSION LETTER

To,

Date:

Subject: Permission to Collect Data for Research Study

Respected Sir,

I am **Ms. Afreen Sultana**, an M.Sc. Clinical Nutrition student at St Ann's College for Women, conducting a study titled, "**A Comparative KAP Study Between the Consumption of Traditional & Bottled Beverages among Adolescents (13-15 years)**", under the guidance of Mrs. Hannah Jessie Francis T, Assistant Professor.

I kindly request your permission to collect data from consenting participants using a structured questionnaire. Participation will be entirely voluntary, and all information provided will be kept strictly confidential and used solely for academic research purposes.

Thank you for your time and consideration.

Sincerely,
Ms. Afreen Sultana
M.Sc. Clinical Nutrition - Student
St Ann's College for Women, Mehdipatnam

Ms. Nasreen Begum- HOD:

Mrs. Hannah Jessie Francis T - Guide:

Department of Nutrition
St. Ann's College for Women
Mehdipatnam, Hyderabad-28.

GMR VARALAKSHMI FOUNDATION SHAMSHABAD

ANNEXURE-2: SURVEY QUESTIONNAIRE

Title: A Comparative KAP Study between consumption of Traditional and Bottled Beverages among Adolescents (13–15 years)

QUESTIONNAIRE

PERSONAL INFORMATION

1.. Age: _____ years

2. Gender:

- A. Male
- B. Female

3. Class/Grade:

- A. 8th
- B.9th
- C.10th

4. School Name: _____

5. Area/Location: _____

SECTION A – KNOWLEDGE

1. Do you know what traditional beverages/drinks are?

- A.Yes
- B.No

2. Do you know what bottled beverages/drinks are?

- A. Yes
- B. No

3.Which of the following, do you think are traditional drinks?

	Name of the drink :	**Yes**	**No**
A	Buttermilk		
B	Coconut water		
C	Ragi malt		
D	Rice kanji		
E	Lemon water with jaggery		

F	Ambali (Ragi porridge)		
G	Pacchi pulusu (Raw tamarind drink)		
H	Panakam(jaggery, lemon ,cardamom)		

4. Which of the following do you think are bottled drinks?

	Name of the drink :	**Yes**	**No**
A.	soft drink • Coca-Cola • Pepsi • Sprite • Fanta • Thums Up • Mountain Dew • 7Up		
B	packaged juices • Tropicana (Orange, Mango, Mixed Fruit, etc.) • Real Fruit Juice • Paper Boat Juices (Aamras, Jamun, etc.) • Minute Maid		
C	energy drinks • Red Bull		

	• Monster • Sting		
D	flavoured water • Bisleri Vedica Flavoured Water • Aquafina Flavors • Tata Gluco+ Flavoured Water		
E	All the above		

. What benefits do you associate with traditional beverages?

(tick all that apply)

- A. Nutritious
- B. Natural
- C. Cooling
- D. Affordable
- E. Easy to prepare

6. What disadvantages do you associate with bottled beverages?

(tick all that apply)

- A.High sugar
- B. Additives
- C. Expensive
- D. Harmful

SECTION B – ATTITUDE

7. Which type of beverages do you prefer?

- A.Traditional
- B. Bottled
- C. Both

8. Do you believe traditional beverages are healthier than bottled beverages?

- A . Yes
- B. No
- C. Not sure

9. Do you think bottled beverages are more fashionable or trendy?

- A. Yes
- B. No
- C. Not sure

10. Would you recommend traditional beverages to your friends/family?

- A.Yes
- B. No

SECTION C – PRACTICES

11. How often do you consume traditional beverages?

- A. Daily
- B. 2–3 times/week
- C. Occasionally
- D. Never

12. How often do you consume bottled beverages?

- A. Daily
- B. 2–3 times/week
- C. Occasionally
- D. Never

13. How many glasses of traditional beverages do you drink per day?

- A. 1–2
- B. 3–4
- C. More than 4
- D. None

14. How many glasses/cans of bottled beverages do you drink per day?

- A. 1–2
- B. 3–4
- C. More than 4
- D. None

15. How often do you consume the following beverages ?

	Name of the drink :	**Daily Once**	**Daily Twice**	**weekly**	**monthly**	**rarely**	**never**
A	Buttermilk						
B	Coconut water						
C	Ragi malt						
D	Rice kanji						
E	Lemon water with jaggery						
F	Ambali (Ragi porridge)						
G	Pacchi pulusu (Raw tamarind drink)						
H	Panakam(jaggery, lemon , cardamom)						

16.

	Name of the drink :	Daily Once	Daily Twice	weekly	monthly	rarely	never
A.	**soft drink :** 1. Coca-Cola 2. Pepsi 3. Sprite 4. Fanta 5. Thums Up 6. Mountain Dew 7. 7Up						
B	**packaged juices:** 1. Tropicana (Orange, Mango, Mixed Fruit, etc.) 2. Real Fruit Juice 3. Paper Boat Juices (Aamras, Jamun, etc.) 4. Minute Maid						
C	**energy drinks:**						

	1. Red Bull 2. Monster 3. Sting						
D	**flavoured water:** 1. Bisleri Vedica Flavoured Water 2. Aquafina Flavors 3. Tata Gluco+ Flavoured Water						

SECTION D – FACTORS INFLUENCING THEIR CHOICE

17. What makes you choose a drink?

- A. Because it tastes good
- B. Because it is easy to get
- C. Because it is not costly
- D. Because friends like it
- E. Because I saw it in an ad
- F. Because it is healthy
- G. Because my family likes it

Q18. Who mostly influences your choice of beverages?

- A.Friends
- B.Family
- C. Advertisements
- D.Self choice

Q19. When do you usually prefer to consume beverages?

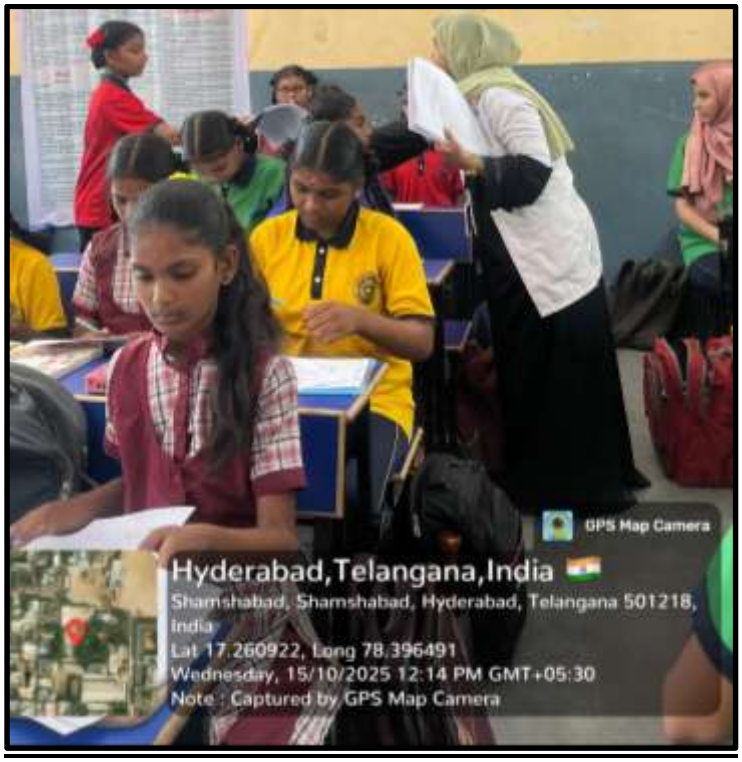
- A.With meals
- B. During outings
- C. During/after sports
- D. Anytime

Q20. How important is the cost of beverages in your choice?

- A.Very important
- B. Somewhat important
- C. Not important

ANNEXURE 3 : PICTURES TAKEN WHILE DATA COLLECTION

GOVT SCHOOL ,SHAMSHABAD



ANNEXURE-4: PLAGIARISM REPORT

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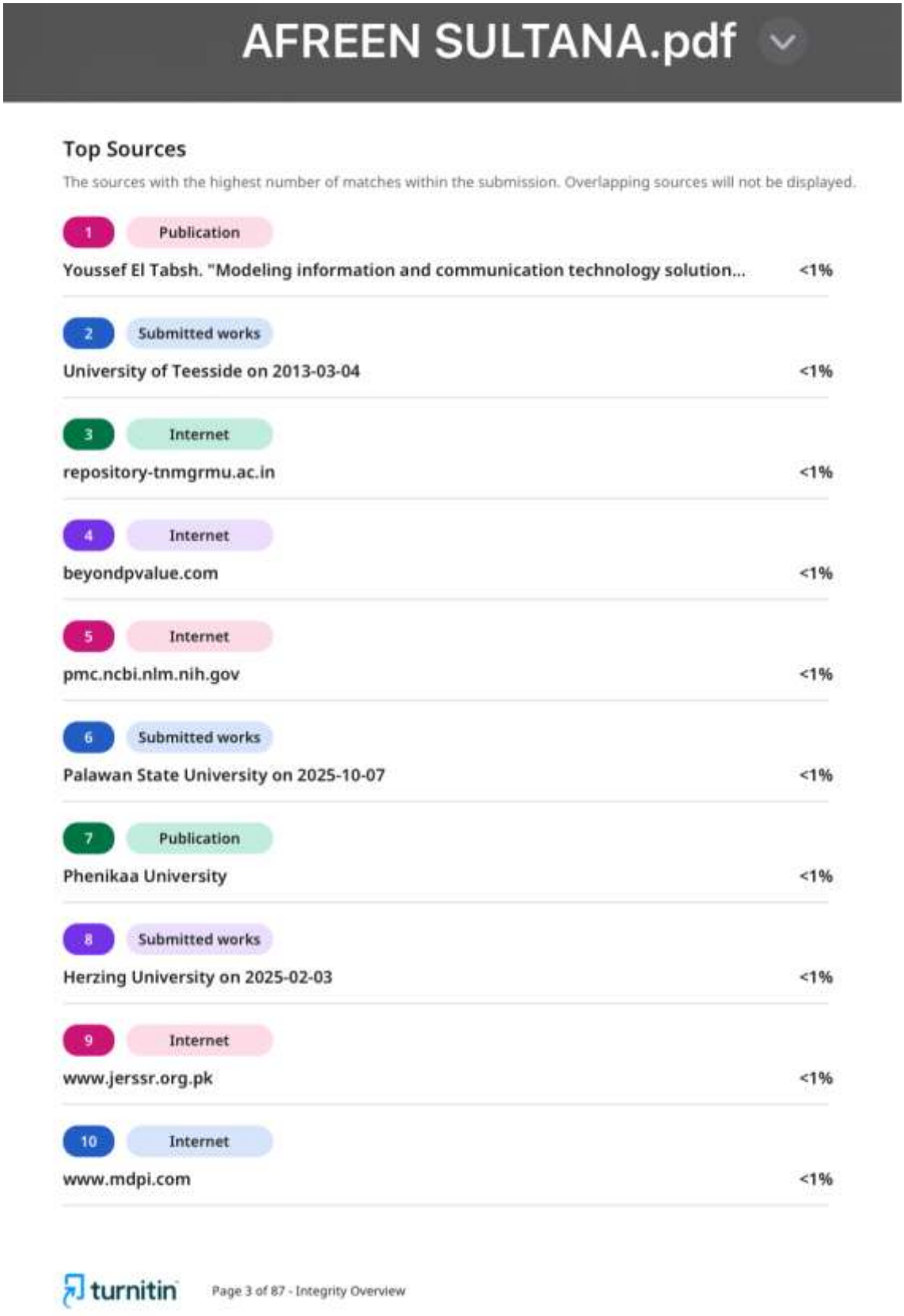
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