

A study to assess the level of awareness regarding caffeine addiction among adolescents at selected school Dehradun

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Abstract: Caffeine, world's most widely consumed and legally accepted psychoactive substance which is commonly found ingredient in many drinks like coffee, tea, carbonated drinks and energy drinks. The objective was to explore how much dependent are the teenagers and young adults on caffeine containing drinks, reasons and circumstances for the consumption and to know the knowledge and attitude of the consumers about the health effects of the caffeine containing drinks. Caffeine is a widely used psychoactive substance in both adults and children that is legal, easy to obtain, and socially acceptable to consume. **Problem statement-** "A study to assess the level of awareness regarding caffeine addiction among adolescents at selected school Dehradun."

Objectives of the study –

To assess the level of awareness regarding caffeine addiction among adolescent at selected school.

To find out the association between level of awareness regarding caffeine addiction and their selected demographic variables among adolescents.

Hypothesis-H₁- There is a significant association between level of awareness regarding caffeine addiction with their selected demographic.

Methodology -

A quantitative research approach was used to assess the level awareness regarding caffeine addiction among adolescents. The research design was selected for the study was descriptive research design. The study was conducted in SGRR public school Patel Nagar, Dehradun. Sampling technique used in this study was non probability convenient sampling technique and sample size is 100. The tool consists two sections A and section B. section A deals with the information regarding demographic variables and section B deals with awareness questionnaires The permission was taken from Principal, SGRR school, Patel Nagar, Dehradun. The sampling technique adopted was non probability convenient sample technique to draw the samples. The total sample size for pilot study was 10 (10% of sample size).

Results - Age group depict that all 100% were in the age group of 15-18years. Percentage distribution of relation to their Gender shows that 57% was males and 43% are females. Percentage wise distribution of relation to their religion shows that 72% in Hindu, 14% Muslim, 9% in Sikh and 5% in Christian. Percentage distribution of relation to type of family shows that 52% were from joint family, 46% of students belongs to nuclear family, 2% of students belongs to extended family. Percentage distribution of relation to their Number of sibling shows that 44% in two, 32% in >2, 15% in one and 9% in Zero. Percentage distribution of relation to their father educational status shows that 35% of father are having primary education, 29% were having no secondary education, 15% were having higher education and 14% were having graduation education and 7% were having in no formal education. Percentage wise distribution of relation to their father Occupation shows that 52% of father were employee, 37% of father were businessmen, 6% were Daily wagger and 5% were unemployed. Percentage wise distribution of relation to their mother education shows that the 37% was in the no formal education. However 35% were in the primary education, 15% were in the secondary education, 8% were in the higher education and 5% in the graduation. Percentage distribution of students in relation to their mother occupation shows that 71% were having home maker, 23% having employee, 6% from business women and 0% of students having daily wagger. Percentage distribution of relation to their family income shows that 32% were having rs.5,001-10,000, 29% in >20,000, 26% in 15,001-20,000 and 13% in rs. In 5,001-10,000. Association was tested with chi-square test. Studies shows that there is a significant association between level of awareness regarding caffeine addiction and their selected demographic among adolescents.

Key word: P Value: Probability value, R: Reliability, S: Significant, SD: Standard Deviation ,

: Not significant , * : Significant

1. INTRODUCTION:

An addiction to caffeine starts the same way for most people - an enjoyment of that extra boost of energy in the morning. The problem is that the body becomes accustomed to this artificial energy and builds a tolerance that means you need more and more coffee in order to achieve the same increase in energy. Not only that, when you take away the caffeine, there can be withdrawal symptoms, which is another reason so many people become addicted to caffeine. Whatever the reason for the addiction and how long it has affected you shouldn't matter. Once you see the dangers of caffeine addiction, you may want to seek treatment.

Caffeine is a commonplace central nervous system stimulant drug which occurs in nature as part of the coffee, tea, yerba mate and other plants. It is also an additive in many consumer products, most notably beverages advertised as energy drinks. Caffeine is also added to sodas such as Coca-Cola and Pepsi, where, on the ingredients listing, it is designated as a flavouring agent, due to pure caffeine powder having a bitter flavour.

Caffeine's mechanism of action is somewhat different from that of cocaine and the substituted amphetamines; caffeine blocks adenosine receptors A and A_{2A}. Adenosine is a by-product of cellular activity, and stimulation of adenosine receptors produces feelings of tiredness and the need to sleep. Caffeine's ability to block these receptors means the levels of the body's natural stimulants, dopamine and no epinephrine, continue at higher levels. Symptoms of Caffeine Addiction. These are some of the major signs and symptoms of an addiction to caffeine: Tolerance - A high tolerance to caffeine - need a lot of caffeine to get the same effect.

Withdrawal - If headaches and other problems happen 24 hours after not having caffeine, the sign of withdrawal symptoms are Inability to stop drinking products with caffeine, Cravings for caffeine, heightened heart rate, Insomnia and anxiety, In extreme cases - tremors or shaking may happen. If any of this sound familiar, you need to hear some about the dangers of caffeine addiction. MK Choi - 2016

Effects of Caffeine on the simple terms, the stimulant effect of caffeine speeds up the heart rate. Research shows that the level of caffeine at which the heart rate is significantly affected is 360 milligrams, the equivalent of about three and a half cups of brewed coffee. For most people who drink caffeine in moderation, this isn't necessarily harmful -- but for people who are prone to anxiety, this may increase the likelihood of panic reactions, because caffeine also increases anxiety, and people experiencing panic reactions often worry they are having a heart attack.

In higher doses, caffeine can cause more significant effects on the heart by changing the speed and regularity of your heartbeat. This is known as tachycardia or cardiac arrhythmia and can be serious. If you think your heartbeat is abnormal, check with your doctor.

2. LITERATURE REVIEW:

- 1) Study related to level of awareness regarding caffeine addiction among adolescents.
- 2) Study related to prevalence caffeine addiction among adolescents.

1. Study related to level of awareness regarding caffeine addiction among students.

Dongmun Ha, et al 2018, conducted a study on Use pattern and predictors of use of highly caffeinated energy drinks among South Korean adolescents: a study using the Health Belief Model. Design A structured questionnaire based on the Health Belief Model was administered to 850 freshmen and sophomores at three high schools in Bucheon, South Korea. Results shows that 833 students responded to the questionnaire (effective response rate=98.0%). About 63.0% reported use of highly caffeinated energy drinks and 35.2% had used them as needed and habitually. The more susceptible the respondents perceived themselves to be to the risk of using these drinks, the less likely they were to use them (OR: 0.73, 95% CI 0.50 to 1.06). The more severe the perception of a health threat, the less that perception was associated with use (OR: 0.44, 95% CI 0.29 to 0.67). Likelihood of action was the strongest predictor of use, explaining 12.5% in use. Benefits and harms (OR: 4.43, 95% CI 2.77 to 7.09; OR: 1.86, 95% CI 1.16 to 2.99) also were significant predictors.

Jessica L.Reidet al 2017, conducted a study on Consumption of Caffeinated Energy Drinks Among Youth and Young Adults in Canada using data from a national online survey conducted in October 2014. Data from a non-probability sample of 2040 respondents aged 12–24 from a consumer panel was weighted to national proportions. Overall, 73.6% of respondents reported ever having consumed energy drinks (57.0% 12- to 14-year-olds; 69.4% 15- to 17-year-olds; 77.9% of 18- and 19-year-olds; 83.4% of 20- to 24-year-olds). Further, 15.6% of all respondents had consumed one in the past week (21.8% of “ever-consumers”). Among all “ever-consumers” in the study, the mean age that respondents had first tried an energy drink was 14.9 years (SD = 2.9, Median = 15); however, this was limited by respondents' own age and varied accordingly. outlines energy drink consumption measures among ever-consumers (frequency and amount); all varied significantly by age group.

Mubashir Ahmad 2017, conducted study to assess the Knowledge and trends of caffeine consumption Among medical and non medical students of Lahore Pakistan determine the rate of the caffeine consumption among students and to assess side effects and benefits of the caffeine among medical and non-medical students. This cross-sectional study was

included medical and non-medical students of various institutes of Lahore. The study duration was three months from May 2014 to July 2014. A predesigned structured questionnaire was used to collect data from the students, Consent was obtained on the form beforehand. Result reveals that Astonishingly 98.6%(74) of medical and 97.4%(73) of the Non-Medical students said that they consume caffeine in one form or another, the most popular caffeinated product turned out to be soft drinks (39%/126 responses) followed by Tea (26.5%/86 responses), coffee (20.6%/67responses) and Energy drinks (11.2%/36 Responses), other caffeinated tablets and gums etc. were consumed by 4.8% of the cases. Almost 25.7%(73 responses) of the students said that they consumed caffeine while studying for exams and 20%(58 Responses) consume it when they have a headache, 19%(54 responses) when they are out with friends, 9.5%(27) when driving for long distances,9.9%(28) while at work,18.5%(25) consumed it when they didn't get enough sleep,60%(90) of the student select a specific caffeine product because of its taste, 8.7%(13) on the basis of affordability and price, 6.7%(10) on the basis of amount of caffeine, and 5.3%(8) on the basis of quality, 11%(17) had no special preference. Almost 44.7%(67) students consumed 0-1 caffeine product per day, 44%(66) consumed 2-3products per day, 7.3%(11) consumed 3-5 products per day and 2%(3) consumed 5 or more.62%(93) of students said that their caffeine consumption has increased since they entered the college or university due to increased study load as the main reason (45.3%) also peer pressure was a significant cause (11.3%). As far as knowledge was concerned, 46%(35) of medical students were categorized as having high knowledge of caffeine. Whereas 25%(19) of non-medical students were categorized as having high knowledge about caffeine..

Mackus M .et al. 2016 conducted study on Consumption of caffeinated beverages and the awareness of their caffeine content among Dutch students The purpose of the current study was to examine the knowledge of caffeine content of a variety of caffeinated beverages among Dutch university students. A pencil-and-paper survey was conducted among N = 800 Dutch students. Most participants (87.8%) reported consuming caffeinated beverages during the past 24 h. Their mean \pm SD past 24-h caffeine intake from beverages was 144.2 ± 169.5 mg (2.2 ± 3.0 mg/kg bw). Most prevalent sources of caffeine were coffee beverages (50.8%) and tea (34.8%), followed by energy drink (9.2%), cola (4.7%), and chocolate milk (0.5%). Participants had poor knowledge on the relative caffeine content of caffeinated beverages. That is, they overestimated the caffeine content of energy drinks and cola, and underestimated the caffeine content of coffee beverages. If caffeine consumption is a concern, it is important to inform consumers about the caffeine content of all caffeine containing beverages, including coffee and tea. The current findings support previous research that the most effective way to reduce caffeine intake is to limit the consumption of coffee beverages and tea.

Tushar P. Thakre 2015 conducted study on Caffeine Awareness in Children Caffeine, a commonly consumed psychoactive substance, can have significant effects on sleep. Caffeine intake among children is increasing, mainly in the form of sodas. However, adolescent caffeine consumers may lack knowledge about the caffeine content in common beverages. If true, this very fact may hamper the assessment of the effects of caffeine consumption on sleep in children if such assessments are *a priori* dependent on responders being able to reliably distinguish between caffeinated and noncaffeinated beverages. This preliminary study investigated adolescents' caffeine knowledge and intake at a Cleveland-area public middle school. Seventh- and eighth-grade students were surveyed using: (1) the Caffeine Literacy and Sleep Study (CLASS), a 15-question pilot instrument designed to assess caffeine knowledge and intake by type, quantity and timing, as well as sleep habits; and (2) the Cleveland Adolescent Sleepiness Questionnaire (CASQ), a validated survey measuring excessive daytime sleepiness in adolescents. These questionnaires were distributed and collected during a specified class period. Study reveals that Of the 635 seventh- and eighth-grade students who attended school on the day of the study, 555 (87%) participated.

Amy M. Branumetal 2014, conducted a study on awareness of Caffeine Intake Among US Children and Adolescents in united state. Method were assessed trends and demographic differences in mean caffeine intake among children and adolescents by using the 24-hour dietary recall data from the 1999–2010. In addition, we described the proportion of caffeine consumption attributable to different beverages, including soda, energy drinks, and tea. Result were revealed that Approximately 73% of children consumed caffeine on a given day. From 1999 to 2010, there were no significant trends in mean caffeine intake overall; however, caffeine intake decreased among 2- to 11-year-olds ($P < .01$) and Mexican-American children ($P = .003$). Soda accounted for the majority of caffeine intake, but this contribution declined from 62% to 38% ($P < .001$). Coffee accounted for 10% of caffeine intake in 1999–2000 but increased to nearly 24% of intake in 2009–2010 ($P < .001$). Energy drinks did not exist in 1999–2000 but increased to nearly 6% of caffeine intake in 2009–2010.

Rola M. et al.2012, conducted study on caffeine consumption among students in Zayed university in Dubai Over the past decade, the global caffeine consumption rate has increased dramatically .Coffee and tea are among the common sources, but energy drinks are becoming an important contributor to total caffeine consumption. Recommendations for daily caffeine intake is not being followed due to the perceived benefits of caffeine which include mood improvement, concentration, social factors, and energy boosting. This study was important to add to the limited data about caffeine consumption in the Gulf region and mainly in the UAE. The objectives were to assess the awareness of caffeinated

beverage consumption among university students and perceived benefits in addition to the estimation of daily caffeine consumption (mg/day). Data was collected through a self-reported questionnaire from a total of 175 participants (129 females and 46 males) who were conveniently selected from different settings at Zayed University - Dubai. Usual Caffeine intake was calculated from all caffeine containing beverages. Study reveals that Eighty-six percent of the 175 participants, both males and females, at Zayed University-Dubai consumed caffeinated beverages with an average intake of 249.7 ± 235.9 mg. The intake among the 150 caffeine consumers varied from 4.2mg/day to 932.2 mg/ females day.. Gary E. McIlvain et al 2011, conducted a study on Caffeine Consumption Patterns and Beliefs of College Freshmen. Methods: An anonymous survey was administered 300 freshmen attending a south-eastern university. Result shows that Among the 300 participants, 255 (85%) reported participating in organized high school activities (this included activities organized by the high school such as competitive sports, academic competitions, etc., and those activities organized in the community such as boxing, gymnastics, etc.) whereas, 45 (15%) reported not participating in any organized activity.

Elyson C. Ward 2010, conducted a study on The Impact of Knowledge, Attitudes, and Peer Influence on Adolescent Energy Drink Consumption This cross-sectional, correlational study sought to identify the role that knowledge, attitudes, and peers play in adolescent energy drink consumption. Adolescents ($n = 199$), ages 18 to 21, at a university in the west were surveyed. which reported a 51% prevalence rate and the FSPB (2002) study that revealed a prevalence of 51% in Northern Ireland and 37% in the Republic of Ireland, this study yielded only a 25% prevalence rate of energy drink consumption. This low prevalence rate may be due to the religious affiliation reported by the majority of the sample.

2) Study related to Caffeine addiction among adolescents

Zeinab Khademalhosseini 2015, Conducted a study on Prevalence of Tea, Coffee and Nescafe Consumption among High School Students and its Relationship with Depression and Anxiety. A cross-sectional survey was conducted among high school students in Shiraz, Iran in 2014. A total of 1020 students, including 510 female (50%) and 510 male (50%), were interviewed according to Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) criteria. Data were collected using Demographic, anxiety and depression questionnaires. The obtained data were analyzed using SPSS version 16. We used descriptive methods, Chi square tests and Pearson correlation. Results: Prevalence of tea, coffee and Nescafe consumption in high school students in Shiraz was 79.5%, 54% and 54% respectively. There was an inverse significant relationship between consumption of these three beverages with depression and anxiety ($P < 0.05$). Conclusion: We found out that prevalence of tea, coffee and Nescafe consumption among high school students was considerable and that of tea consumption was more than two other beverages. Also our findings support an inverse relationship between tea, coffee and Nescafe consumption with anxiety and depression.

David Hammond et al 2015, conducted a study on Adverse effects of caffeinated energy drinks among youth and young adults in Canada: a Web-based survey. An online survey was conducted in 2015 with a national sample of youth (aged 12-17 yr) and young adults (aged 18-24 yr) recruited from a consumer panel. Respondents reported prior consumption of energy drinks as well as adverse outcomes, concurrent activities associated with the outcomes and whether medical attention was sought or considered. Results: Of the 2055 respondents, 1516 (73.8%) reported having ever consumed an energy drink, and 1741 (84.7%) reported having ever consumed coffee (unweighted). Overall, 55.4% of respondents who had ever consumed an energy drink reported that they had experienced at least 1 adverse event, including fast heartbeat (24.7%), difficulty sleeping (24.1%), headache (18.3%), nausea/vomiting/diarrhea (5.1%), chest pain (3.6%) and seizures (0.2%); 3.1% had sought or had considered seeking medical help for an adverse event. The prevalence of reported adverse events was significantly greater among energy drink consumers than among coffee consumers (36.0%) (odds ratio [OR] 2.67 [95% confidence interval (CI) 2.01-2.56]), as was the proportion who reported seeking or considering seeking medical help for adverse events (3.1% v. 1.4%) .

Mo'ez Al-Islam Ezzat Fariset al 2014, conducted a study on Patterns of Caffeinated Energy Drinks Consumption among Adolescents and Adults in Hail, Saudi Arabia A cross-sectional study was conducted and included which randomly selected 1062 participants (867 males and 195 females) from universities, colleges, middle-to-higher schools and social settings. Data collection was conducted using a self-administered standard tested questionnaire. The current study revealed about 46% had drunk energy drinks, while about 54% did not ever drink energy drinks. Out of the energy drinks consumers, 37% started drinking during the primary school, 64% consumed energy drinks on a daily basis, and 44% consumed two or more cans per day. Reasons behind not taking energy drinks were the belief that they are unhealthy drinks (about two-thirds of non-drinkers), and lack of curiosity for energy drinks (18%).

. We began with a total of 55 participants. Interested participants called our laboratory or completed an online survey to provide basic information. Participants were male ($n = 28$) and female ($n = 26$) 12- to 17-year-olds. Mean SEM change from baseline heart rate (top) and diastolic blood pressure (bottom) after administration of placebo (0 mg) or 50, 100, or 200 mg of caffeine. We found a main effect of drug dose on each of these measures, with a dose-dependent decrease in heart rate ($p = .001$) and a dose-dependent increase in diastolic blood pressure.

3. METHOD: The study was conducted to assess the awareness regarding caffeine addiction among adolescents at selected school Dehradun.

Research approach and research design

A quantitative research approach was used to assess the level awareness regarding caffeine addiction among adolescents. The research design was selected for the study was descriptive research design.

Setting of the study: the study was conducted in sgrr public school patel nagar, dehradun. this school was selected because of easy access to the population under study. The school is situated approximately 1.5km from SGRR college of nursing. The school was established by SGRR education mission. The school is running classes from 1st to 12th and more than 1200 students are studying.

Population of the study: The population consists of adolescence students studying class 12th of SGRR public school, with age group of 15-18 years, Patel Nagar, Dehradun.

Sample: The sample were adolescence students studying in SGRR public school Patel Nagar, Dehradun, who were fulfilling the selection criteria.

Sample technique and sample size: Sampling technique used in this study was non probability convenient sampling technique and sample size is 100.

SAMPLING CRITERIA

Inclusion Criteria

1. Adolescence of selected school of Dehradun.
2. Students who are present during data collection period.
3. Students who are willing to participate.
4. Students who can read and write English.

Exclusion Criteria:

1. Students who are not available during the period of data collection.
2. Students who are not willing to participate in the study.
3. Adolescence above the age of 18 years.

4. SELECTION AND DEVELOPMENT OF TOOL

A. SELECTION OF TOOL

Tool were prepared on the basis of objective of the study. A structured knowledge questionnaire was selected to assess the awareness regarding caffeine addiction among adolescence student. the instrument was developed to elicit the response from subject in English

The following step were carried out in the preparation of tool.

- Literature review
- Conceptual framework
- Discussion with expert
- Preparation of blue print

B. PREPRATION OF BLUE PRINT

Blue print of the tool was prepared by the researcher, which include variety of knowledge questionnaires, serial number of questions, question and weight age of question.

C. DEVELOPMENT AND DESCRIPTION OF TOOLS (TOOLS CONSISTS OF SECTION A AND B)

The tool consists two sections A and section B. section A deals with the information regarding demographic variables and section B deals with awareness questionnaires.

Section 1: Frequency and percentage distribution of adolescents according to their demographic variables.

The data obtained in sample characteristics and analyzed using descriptive statistics and depicted in Table (4.1).

Table 4.1: Frequency and percentage distribution of sample according to their selected demographic variables.

N = 100

S.NO.	DEMOGRAPHIC VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
1.	AGE (IN YEARS)		
	a) 15	16	16
	b) 16	28	28
	c) 17	34	34
	d) 18	22	22
2.	GENDER		
	a. Male	57	57
	b. Female	43	43
3.	RELIGION		
	a. Hindu	72	72
	b. Muslim	14	14
	c. Sikh	9	9
	d. Christian	5	5
4.	TYPE OF FAMILY		
	a. Nuclear	46	46
	b. Joint	52	52
	c. Extended	2	2
5.	NUMBER OF SIBLING		
	a. Zero	9	9
	b. One	15	15
	c. Two	44	44
	d. > 2	32	32
6.	FATHER EDUCATION		
	a. No formal education	7	7
	b. Primary education	35	35
	c. Secondary education	29	29
	d. Higher secondary	15	15
	e. Graduation and above	14	14
7.	FATHER OCCUPATION		
	a. Employee	52	52
	b. Businessmen	37	37
	c. Unemployed	5	5
	d. Daily Wager	6	6
8.	MOTHER EDUCATION		
	a. No formal education	37	37
	b. Primary education	35	35
	c. Secondary education	15	15
	d. Higher secondary	8	8
	e. Graduation and above	5	5
9.	MOTHER OCCUPATION		
	a. Home maker	71	71
	b. Employee	23	23
	c. Businesswomen	6	6
	d. Daily Wager	0	0
10.	FAMILY INCOME		
	a. Rs 5,001-10,000	13	13
	b. Rs 10,001-15,000	32	32
	c. Rs 15,001-20,000	26	26
	d. >20,000	29	29

11.	AREA OF LIVING		
	a. Urban	100	100
	b. Rural	0	0

The table (4.1) shows that demographic data details according to their age group depict that all 100% were in the age group of 15-18years.

Percentage distribution of relation to their Gender shows that 57% was males and 43% are females.

Percentage wise distribution of relation to their religion shows that 72% in Hindu, 14% Muslim, 9% in Sikh and 5% in Christian.

Percentage distribution of relation to type of family shows that 52% were from joint family, 46% of students belongs to nuclear family, 2% of students belongs to extended family.

Percentage distribution of relation to their Number of sibling shows that 44% in two, 32% in >2, 15% in one and 9% in Zero.

Percentage distribution of relation to their father educational status shows that 35% of father are having primary education, 29% were having no secondary education, 15% were having higher education and 14% were having graduation education and 7% were having in no formal education.

Percentage wise distribution of relation to their father Occupation shows that 52% of father were employee, 37% of father were businessmen, 6% were Daily wager and 5% were unemployed.

Percentage wise distribution of relation to their mother education shows that the 37% was in the no formal education. However, 35% were in the primary education, 15% were in the secondary education, 8% were in the higher education and 5% in the graduation.

Percentage distribution of students in relation to their mother occupation shows that 71% were having home maker, 23% having employee, 6% from business women and 0% of students having daily wager.

Percentage distribution of relation to their family income shows that 32% were having rs.5,001-10,000, 29% in >20,000, 26% in 15,001-20,000 and 13% in rs. In 5,001-10,000.

Percentage distribution of relation to their area of living shows all 100% were having in urban and in 0% in rural.

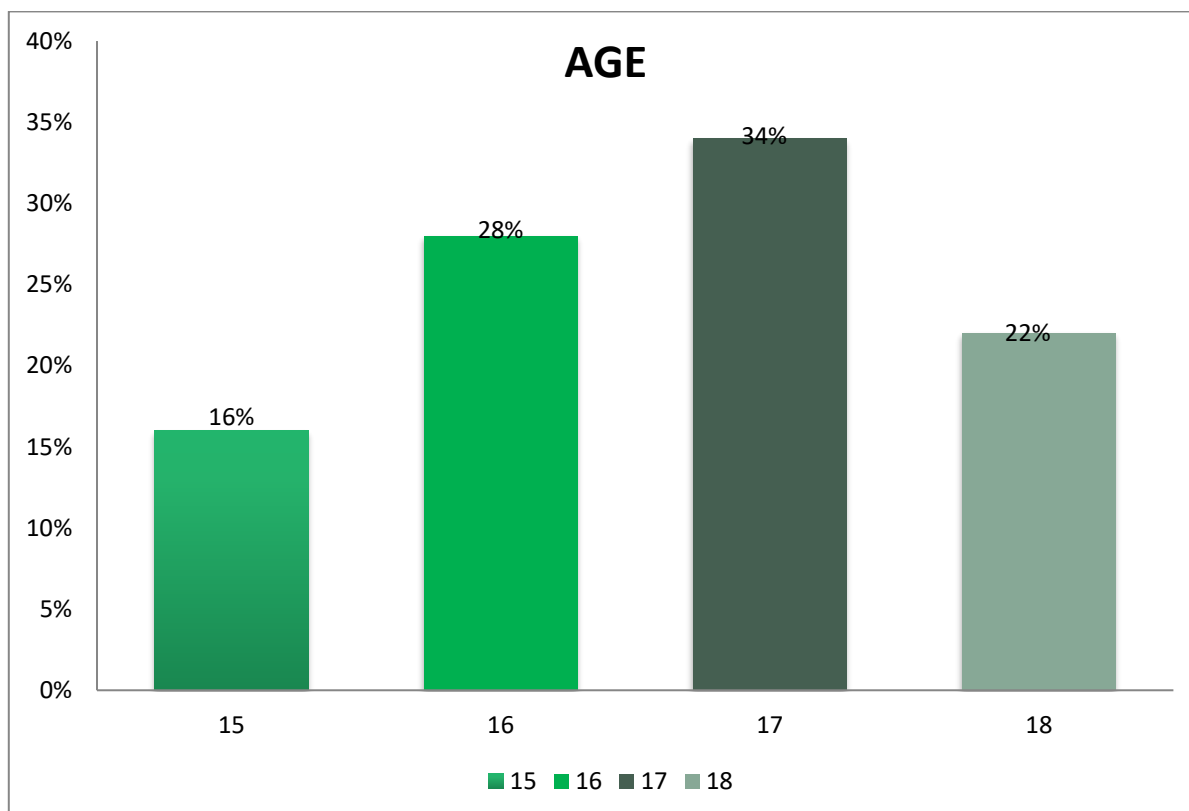


Fig 4.1: Bar diagram shows that demographic data details according to their age group depict that highest percentage of student 100% were in the age group of 15-18years. In the age group of 12-14 years 0%.

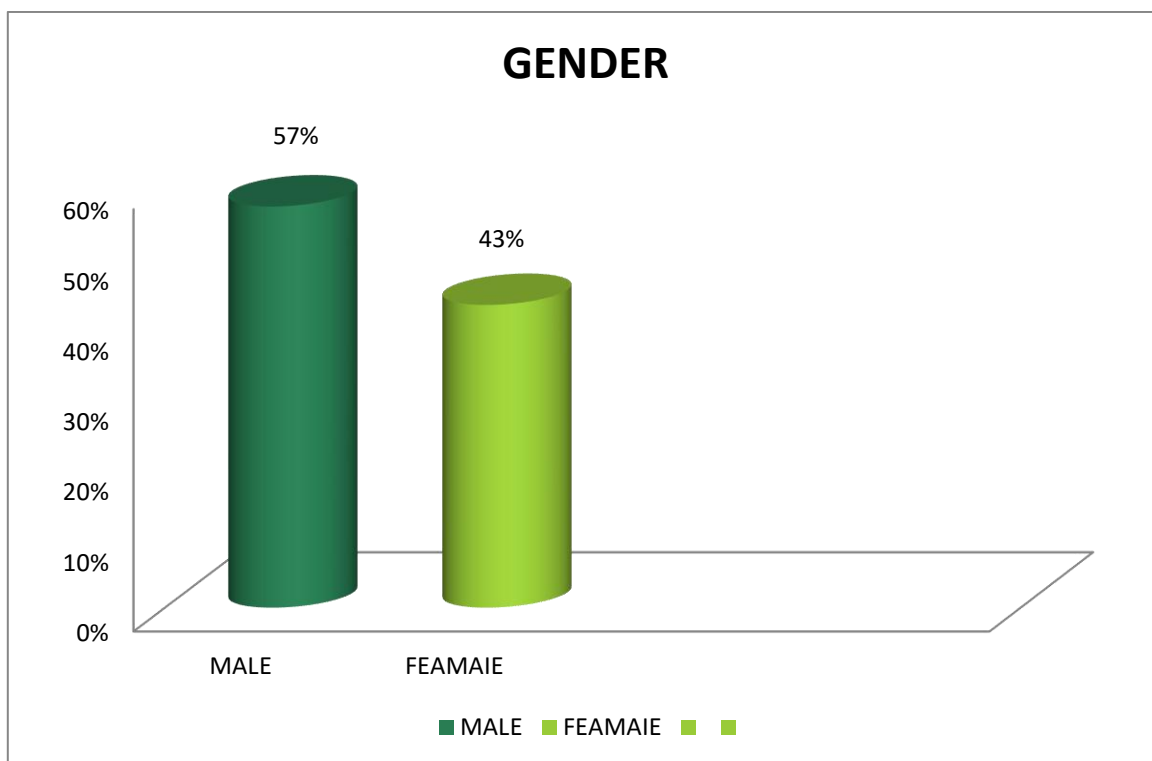


Fig 4.2: Cylindrical diagram Percentage distribution of relation to their Gender shows that highest percentage of students 57% was males and 43% were females.

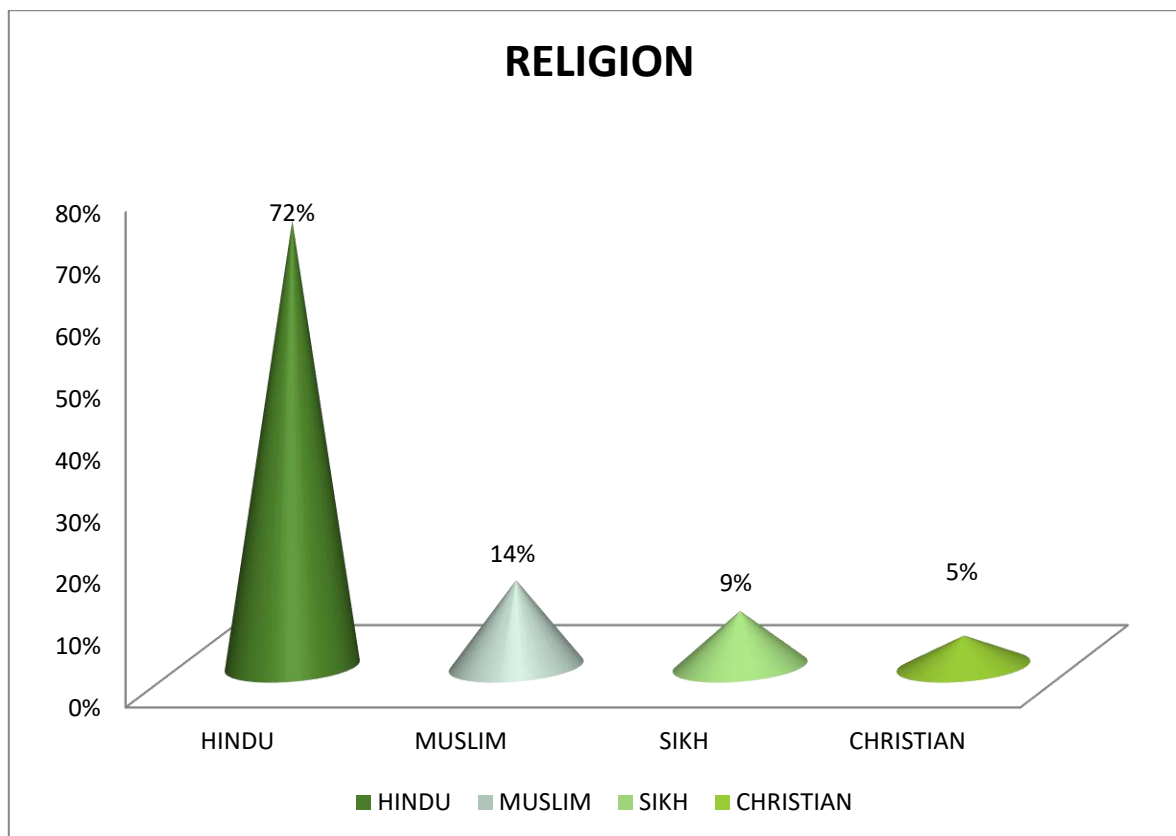


Fig 4.3: Conical diagram Percentage wise distribution of relation to their religion shows that 72% in Hindu, 14% Muslim, 9% in Sikh and 5% in Christian.

TYPE OF FAMILY

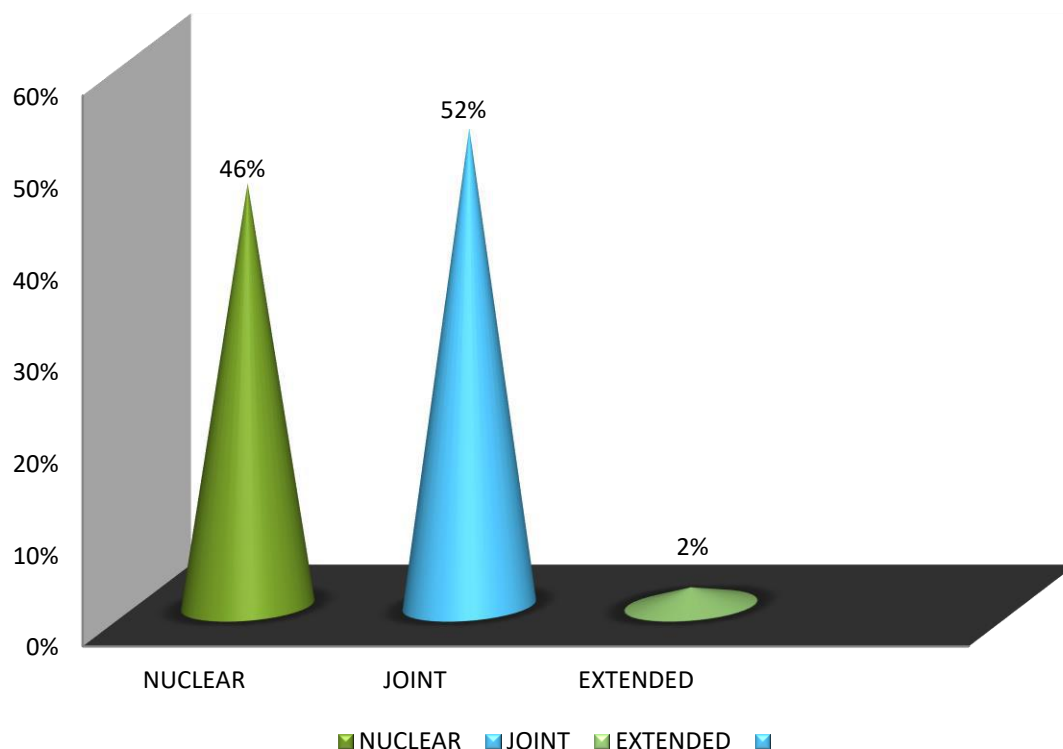


Fig 4.4: Conical diagram Percentage distribution of relation to type of family shows that highest percentage of students 52% were from joint family, 46% of students belongs to nuclear family, 2% of students belongs to extended family.

NUMBER OF SIBLING

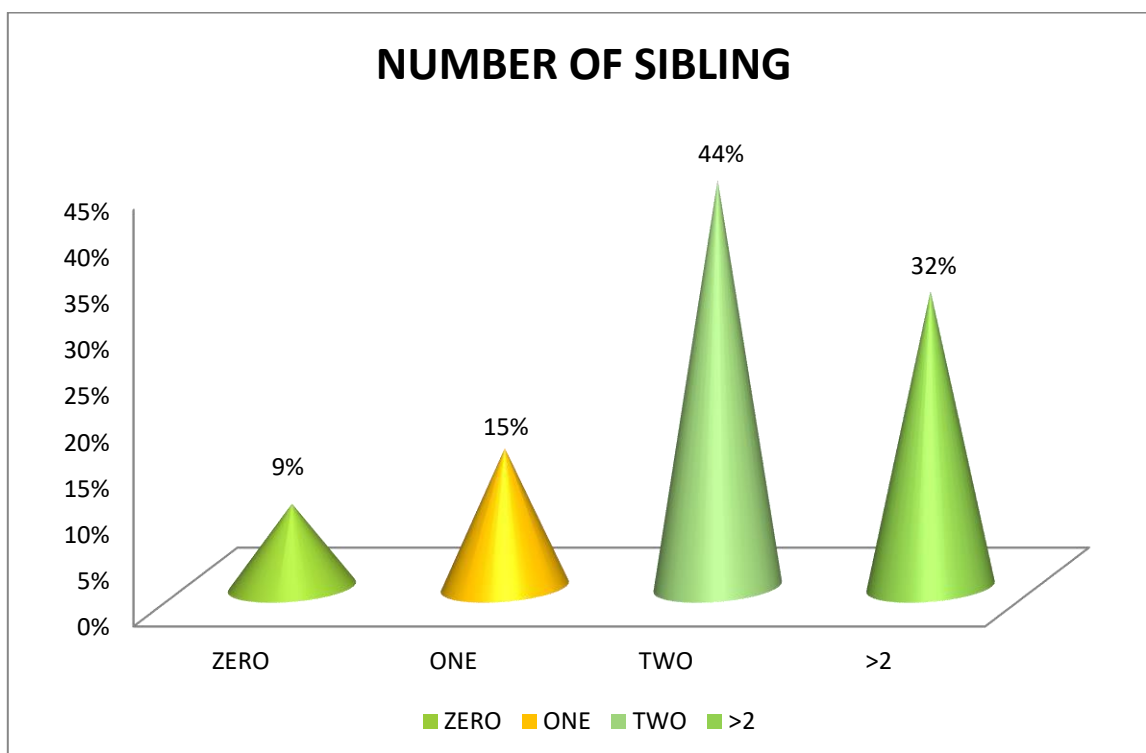


Fig 4.5: Conical diagram Percentage distribution of relation to their Number of sibling shows that highest percentage of students 44% in two, 32% in >2, 15% in one and 9% in Zero.

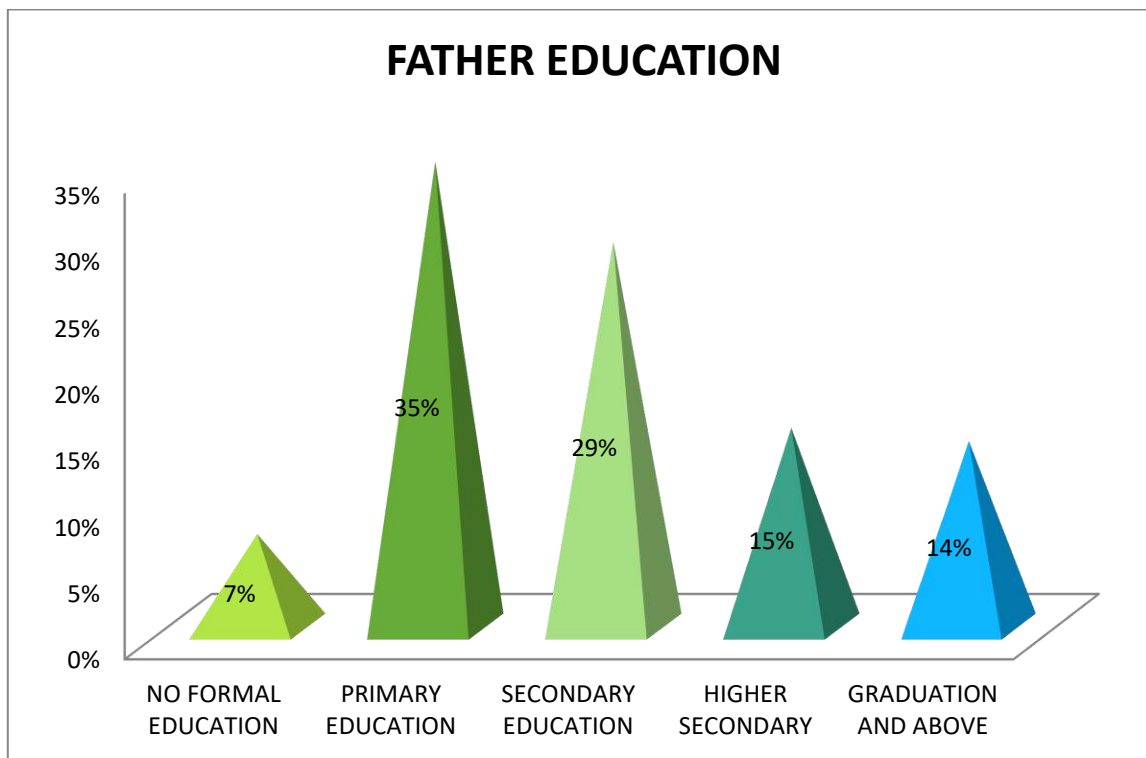


Fig 4.6: Pyramidal diagram Percentage distribution of relation to their father educational status shows that 35% of father were having primary education, 29% were having no secondary education, 15% were having higher education and 14% were having graduation education and 7% were having in no formal education.

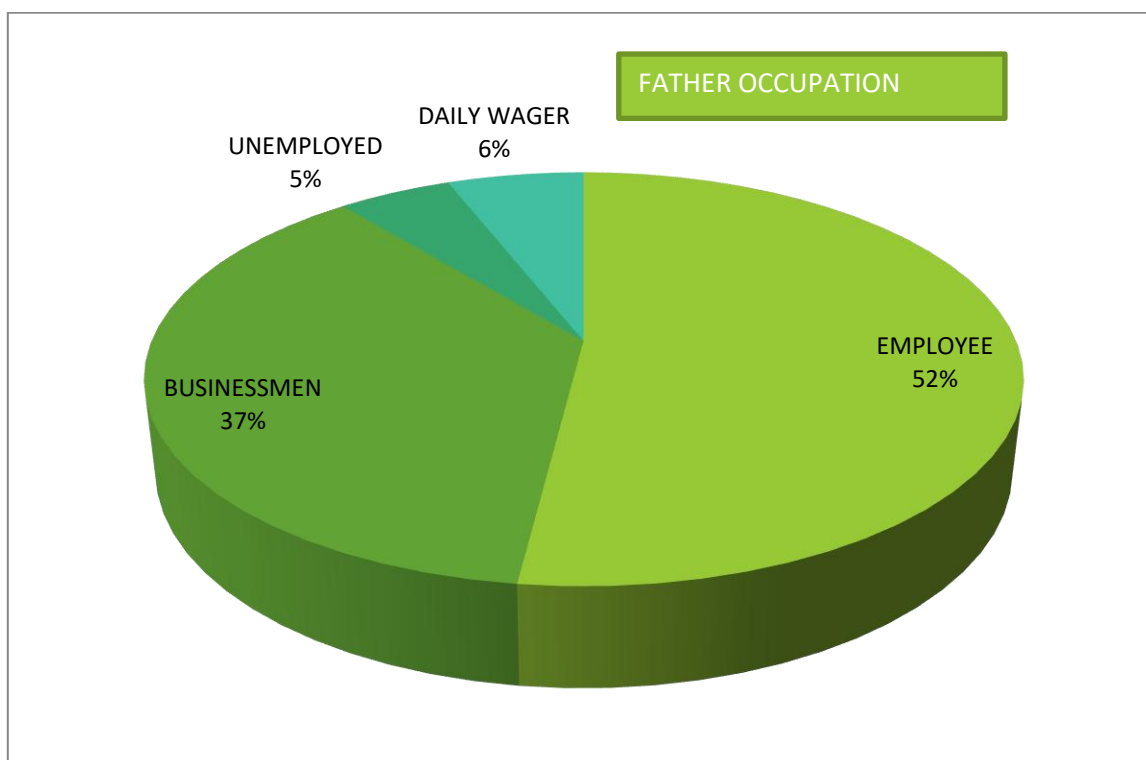


Fig. 4.7: Pie diagram Percentage wise distribution of relation to their father Occupation shows that 52% of father were employee, 37% of father were businessmen, 6% were Daily wager and 5% were unemployed.

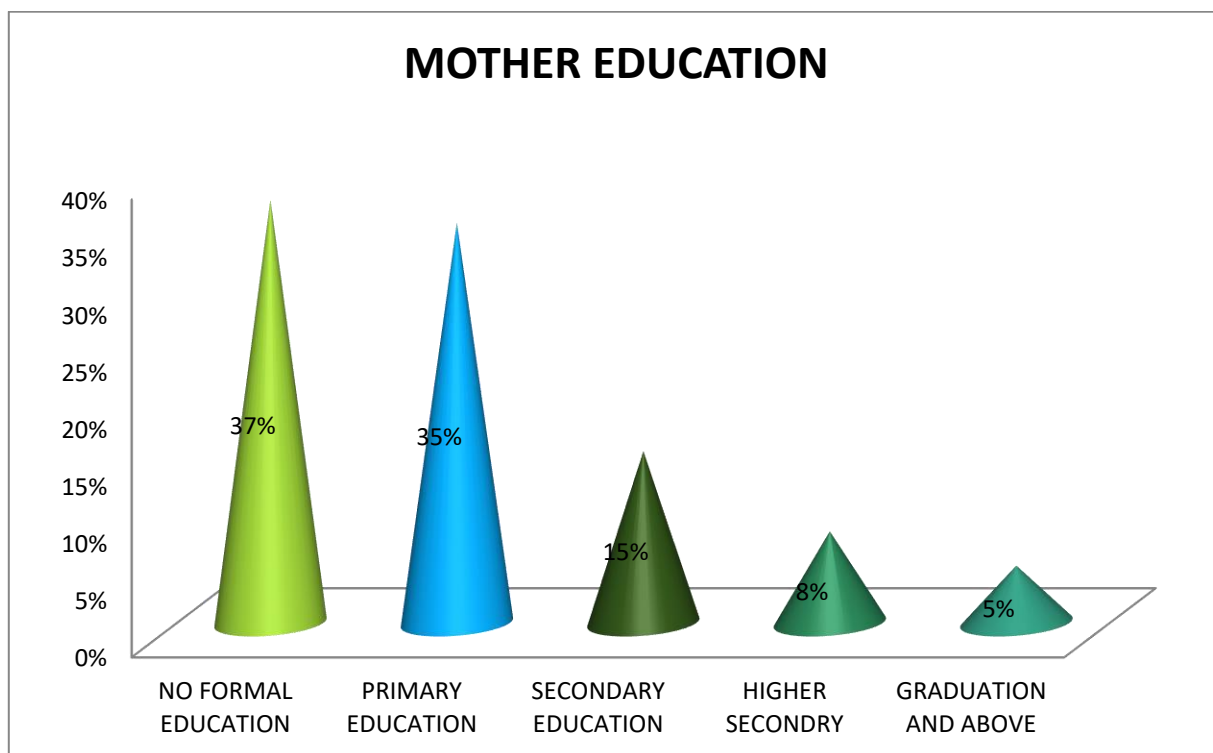


Fig. 4.8: Conical diagram Percentage wise distribution of relation to their mother education shows that the highest percentage 37% was in the no formal education. However 35% were in the primary education, 15% were in the secondary education, 8% were in the higher education and 5% in the graduation.

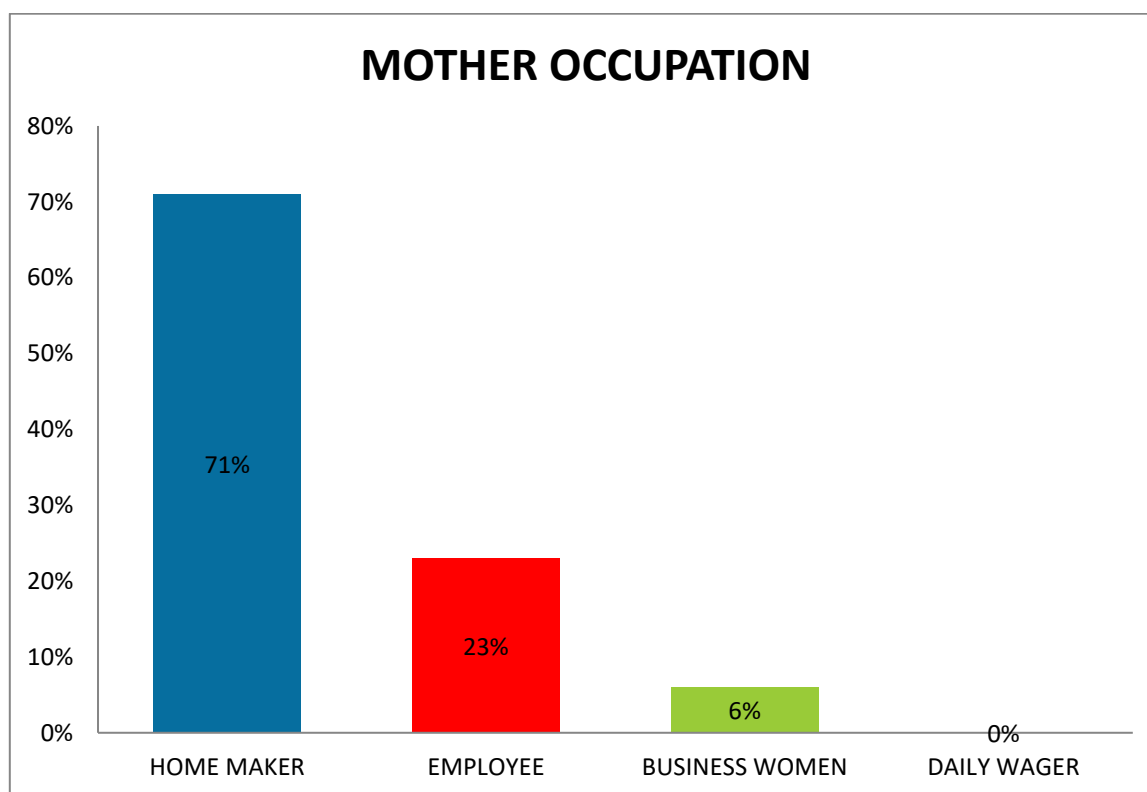


Fig. 4.9: Bar diagram Percentage distribution of students in relation to their mother occupation shows that highest percentage 71% were having home maker, 23% having employee, 6% from business women and 0% of students having daily wager.

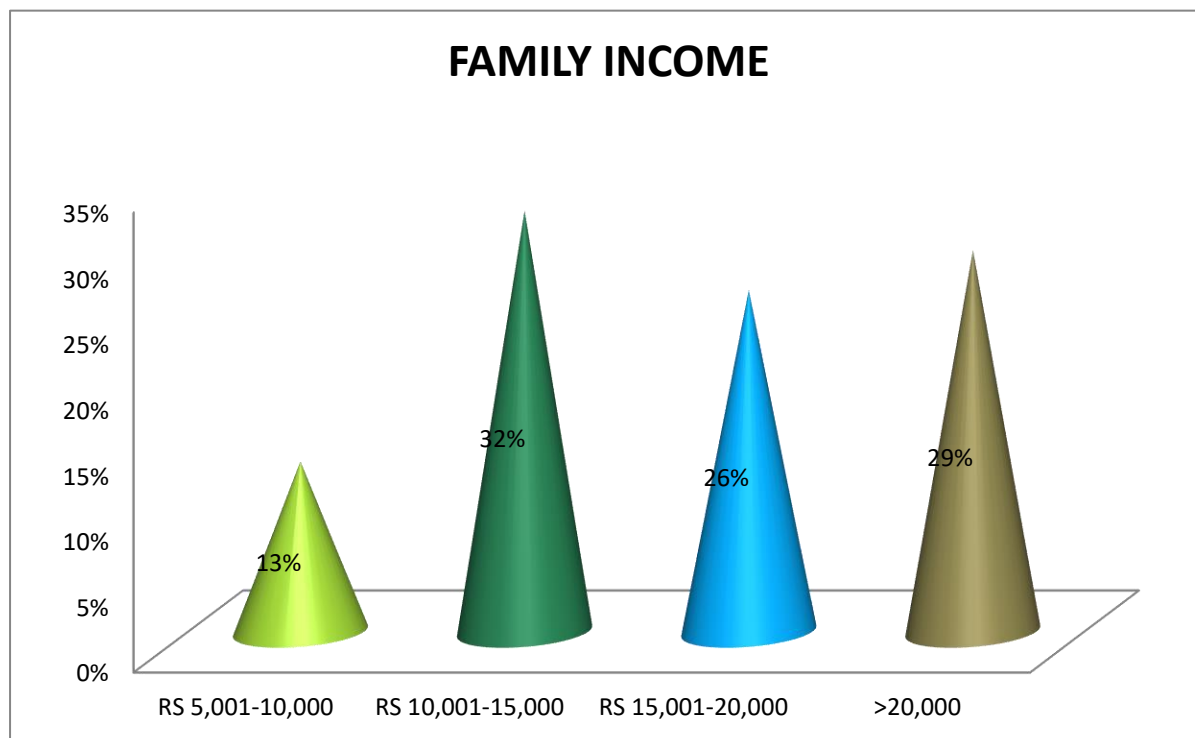


Fig. 4.10: Conical diagram Percentage distribution of relation to their family income shows highest percentage 32% were having rs.5,001-10,000 , 29% in >20,000 , 26% in 15,001-20,000 and 13% in Rs. In 5,001-10,000.

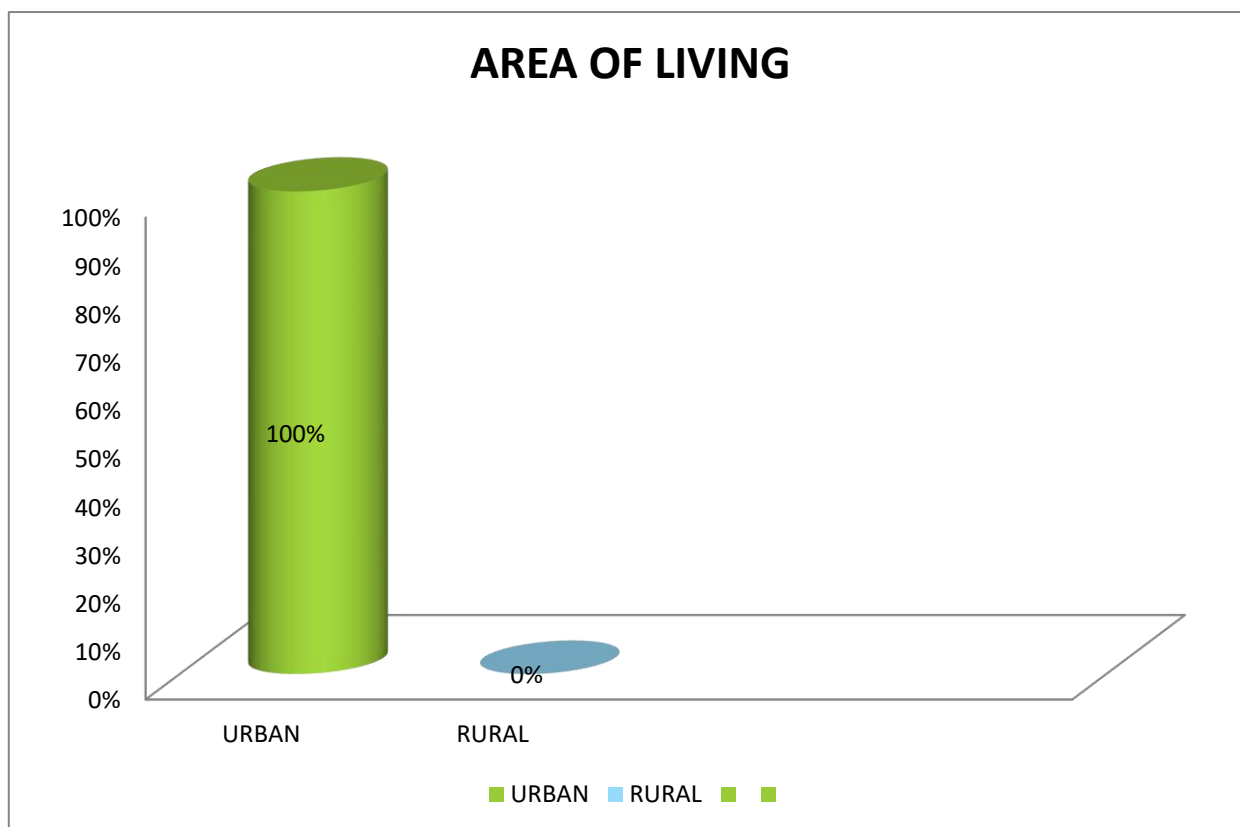


Fig 4.11: Cylindrical diagram Percentage distribution of relation to their area of living shows highest percentage 100% were having in urban and in 0% in rural area.

Section 2: Data regarding level of awareness regarding caffeine addiction among adolescents at selected school of Dehradun.

Table (4.2): Frequency and percentage distribution of sample response to awareness regarding caffeine addiction

N=100

LEVEL OF AWARENESS	FREQUENCY	PERCENTAGE	MEAN
INADEQUATE	1	1%	19.12
MODERATE	63	63%	
ADEQUATE	36	36%	

Table 4.2: Data presented in Table (4.2) shows that in 36% of subjects adequate knowledge. Moderate knowledge score was 63%. Inadequate knowledge score was 1% .

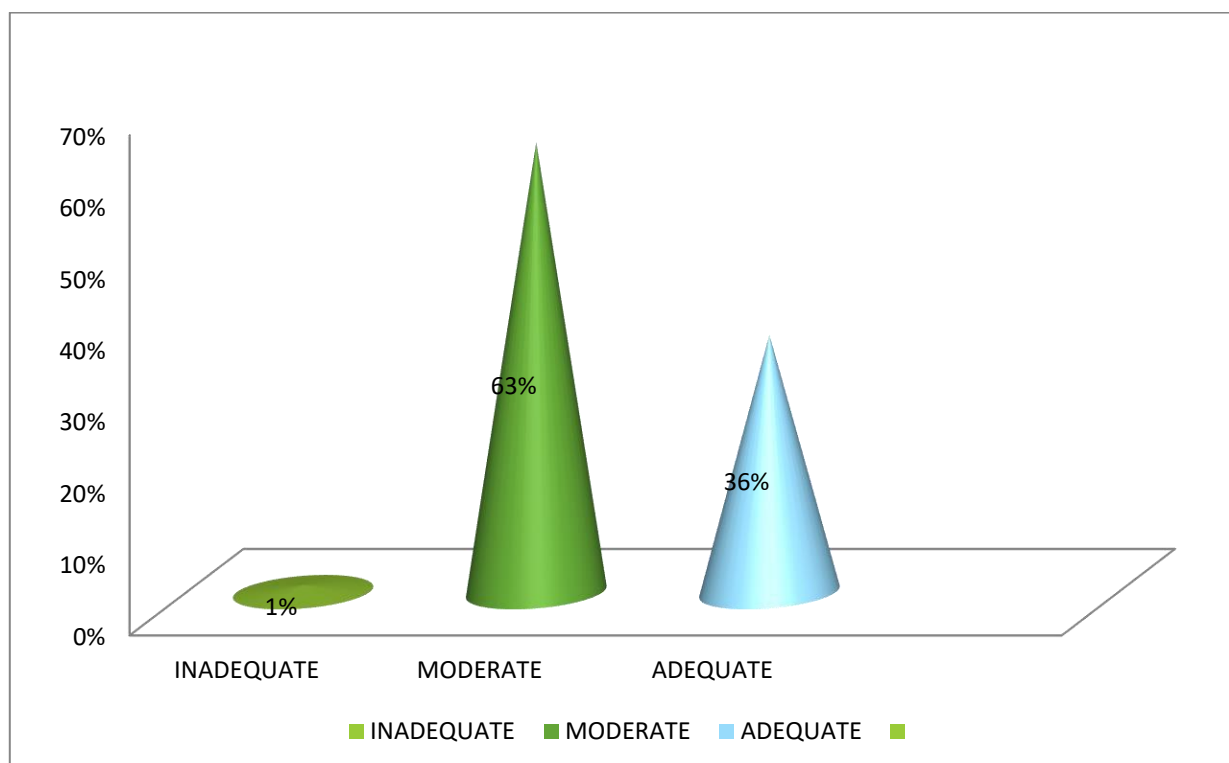


Fig 4.12: The Conical diagram showing the percentage distribution of sample according to their level of awareness regarding caffeine addiction.

Section 3 : Association between level of awareness regarding caffeine addiction with their selected demographic variables: Association between knowledge score with their selected demographic variable. This section deal with the testing of the hypothesis (H1) to find out the association between the awareness regarding caffeine addiction and selected demographic variables(age, gender, religion, type of family , no of sibling, father education, father occupation, mother occupation, father income, area of living) among adolescence.

Research hypothesis

H₁There is a significant association between the awareness regarding caffeine addiction and selected demographic variables(age ,gender, religion ,type of family ,no of sibling, father education ,father occupation ,mother occupation, father income, area of living) among adolescence.

Statistical Hypothesis

H₀There was not significant association between level of awareness and selected demographic variables (Age, Gender, Religion, Type of family, Number of sibling, Father Occupation, Mother education, Mother occupation, Family income, Area of living) among adolescence.

Table 4.3: Association between level of awareness regarding caffeine addiction with their selected demographic variables

N=100

S.no	Demographic variables	Level of knowledge			DF	Chi-Square value	Table Value	Association
		Inadequate	moderate	adequate				
1.	AGE (IN YEARS)							
	a. 15	0	17	8	6	5.69	12.59	#
	b. 16	0	12	10				
	c. 17	1	16	12				
d. 18	0	18	6					
2.	GENDER							
	a. Male	1	35	21	2	0.82	5.99	#
b. Female		0	28	15				
3.	RELIGION							
	a. Hindu	1	45	26	6	6.95	12.59	#
	b. Muslim	0	10	4				
	c. Sikh	0	3	6				
d. Christian	0	5	0					
4.	TYPE OF FAMILY							
	a. Nuclear	0	28	18	4	2.24	9.49	#
	b. Joint	1	33	18				
c. Extended	0	2	0					
5.	NUMBER OF SIBLING							
	a. Zero	0	7	2	6	2.80	12.59	#
	b. One	0	8	7				
	c. Two	1	27	16				
d. > 2	0	21	11					
6.	FATHER EDUCATION							
	a. No formal education	0	21	6	8	19.97	15.51	*
	b. Primary education	1	23	11				
	c. Secondary education	0	20	9				
	d. Higher secondary	0	9	6				
e. Graduation and above	0	10	4					
7.	FATHER OCCUPATION							
	a. Employee	0	32	20	6	5.77	12.59	#
	b. Businessmen	0	27	10				
	c. Unemployed	0	3	2				
d. Daily Wager	1	1	4					
8.	MOTHER EDUCATION							
	a. No formal education	0	21	16	8	5.1	15.51	#
	b. Primary education	1	23	11				
	c. Secondary education	0	9	6				
	d. Higher secondary	0	6	2				
e. Graduation and above	0	4	1					
9.	MOTHER OCCUPATION							
	a. Home maker	1	44	26	6	3.74	12.59	#
	b. Employee	0	17	6				
	c. Businesswomen	0	2	4				
d. Daily Wager	0	0	0					

10.	FATHER INCOME							
	a. Rs 5,001-10,000	0	8	5	6	9.59	12.59	#
	b. Rs 10,001-15,000	1	15	1				
	c. Rs 15,001-20,000	0	20	6				
	d. >20,000	0	20	9				
11.	AREA OF LIVING	1	63	36				
	a. Urban	0	0	0	2	0	5.99	#
	b. Rural							

Table (4.3) shows that there is significant association between level of awareness regarding caffeine addiction and father education at 0.05 level of significance. There was not significant association between pretest knowledge score and selected demographic variables (Age, Gender, Religion, Type of family, Number of sibling, Father Occupation, Mother education, Mother occupation, Family income, Area of living) at 0.05 level of significance.

5. DISCUSSION & SUMMARY:

This chapter dealt with the analysis and interpretation of data collection. The distribution of demographic variables was associated and the proposed hypothesis have been tested here.

OBJECTIVE 1: To assess the level of awareness regarding caffeine addiction among adolescent at selected school Dehradun.

Mackus M et. al., 2016, the purpose of the current study was to examine the knowledge of caffeine content of a variety of caffeinated beverages among Dutch university students. A pencil-and-paper survey was conducted among N = 800 Dutch students. Most participants (87.8%) reported consuming caffeinated beverages during the past 24 h. Their mean \pm SD past 24-h caffeine intake from beverages was 144.2 ± 169.5 mg (2.2 ± 3.0 mg/kg bw). Most prevalent sources of caffeine were coffee beverages (50.8%) and tea (34.8%), followed by energy drink (9.2%), cola (4.7%), and chocolate milk (0.5%). Participants had poor knowledge on the relative caffeine content of caffeinated beverages. That is, they overestimated the caffeine content of energy drinks and cola, and underestimated the caffeine content of coffee beverages. If caffeine consumption is a concern, it is important to inform consumers about the caffeine content of all caffeine containing beverages, including coffee and tea. The current findings support previous research that the most effective way to reduce caffeine intake is to limit the consumption of coffee beverages and tea.

OBJECTIVE 2: To find out the association between level of regarding caffeine addiction and their selected demographic variables among adolescents.

Abulrehman O. Musager. et al , 2014, the objective of this study is to explore the knowledge, attitudes and intake of energy drinks among adolescents in Saudi Arabia. A multi-stage stratified sampling procedure was carried out to select 1061 school children aged 12–19 years, from Jeddah city, Saudi Arabia. A short self-reported questionnaire was administered in order to collect the data. Of adolescents in the study, 45% drank energy drinks (71.3% males and 35.9% females; $P < 0.001$). Advertisements were the main source of information on energy drinks (43%). The major reasons for consuming energy drinks were taste and flavour (58%), to 'try them' (51.9%) and 'to get energy' (43%), albeit with significant differences between genders ($P < 0.001$). About half of the adolescents did not know the ingredients of these drinks, and 49% did not know that they contain caffeine (P -values < 0.006 and < 0.001 between genders, respectively). The greater majority (67%) considered energy drinks to be soft drinks. The study indicates the need for Saudi adolescents to be warned on the over-consumption of energy drinks. The study brings to attention the need for educational programmes related to increasing awareness in the community of the health effects related to high consumption of energy drinks.

SUMMARY: The chapter dealt with the discussion in accordance with the objectives of the study and hypothesis.

6. FINDINGS : Major findings of the study are

- Percentage distribution of relation to their Gender shows that 57% was males and 43% are females.
- Majority of their religion shows that 72% in Hindu, 14% Muslim, 9% in Sikh and 5% in Christian.
- Percentage distribution of relation to type of family shows that 52% were from joint family, 46% of students belongs to nuclear family, 2% of students belongs to extended family.
- Percentage distribution of relation to their Number of sibling shows that 44% in two, 32% in >2, 15% in one and 9% in Zero.
- Highest percentage father educational status shows that 35% of father are having primary education, 29% were having no secondary education, 15% were having higher education and 14% were having graduation education and 7% were having in no formal education.

- Maximum percentage of father Occupation shows that 52% of father were employee, 37% of father were businessmen, 6% were Daily wager and 5% were unemployed.
- Percentage wise distribution of relation to their mother education shows that the 37% was in the no formal education. However 35% were in the primary education, 15% were in the secondary education, 8% were in the higher education and 5% in the graduation.
- Majority of mother occupation shows that 71% were having home maker, 23% having employee, 6% from business women and 0% of students having daily wager.
- Percentage distribution of relation to their family income shows that 32% were having rs.5,001-10,000 , 29% in >20,000 , 26% in 15,001-20,000 and 13% in rs. In 5,001-10,000.
- Percentage distribution of relation to their area of living shows all 100% were having in urban and in 0% in rural.

7. RESULT: Age group depict that all 100% were in the age group of 15-18years. Percentage distribution of relation to their Gender shows that 57% was males and 43% are females. Percentage wise distribution of relation to their religion shows that 72% in Hindu, 14% Muslim, 9% in Sikh and 5% in Christian. Percentage distribution of relation to type of family shows that 52% were from joint family, 46% of students belongs to nuclear family, 2% of students belongs to extended family. Percentage distribution of relation to their Number of sibling shows that 44% in two, 32% in >2, 15% in one and 9% in Zero. Percentage distribution of relation to their father educational status shows that 35% of father are having primary education, 29% were having no secondary education, 15% were having higher education and 14% were having graduation education and 7% were having in no formal education. Percentage wise distribution of relation to their father Occupation shows that 52% of father were employee, 37% of father were businessmen, 6% were Daily wager and 5% were unemployed. Percentage wise distribution of relation to their mother education shows that the 37% was in the no formal education. However 35% were in the primary education, 15% were in the secondary education, 8% were in the higher education and 5% in the graduation. Percentage distribution of students in relation to their mother occupation shows that 71% were having home maker, 23% having employee, 6% from business women and 0% of students having daily wager. Percentage distribution of relation to their family income shows that 32% were having rs.5,001-10,000 , 29% in >20,000 , 26% in 15,001-20,000 and 13% in rs. In 5,001-10,000. Association was tested with chisquare test. Studies shows that there is a significant association between level of awareness regarding caffeine addiction and their selected demographic (age, gender, religion, type of family, number of siblings, father's education, fathers occupation, mother education, mother occupation, family income ,area of living, type of school .) among adolescents.

8. RECOMMENDATIONS:

- The same study can be repeated with large sample.
- The same study can be conducted in various setting such as hospital and community.
- The same study can be conducted with intervention.

9. CONCLUSION: The study revealed that the maximum sample has moderate awareness regarding caffeine addiction. There is significant association between awareness of caffeine addiction with father education and no significant association between Age, Gender, Religion, Type of family, Number of sibling, Father Occupation, Mother education, Mother occupation, Family income, Area of living

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