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AWARENESS ON SLEEP DEPRIVATION AND SKIPPING BREAKFAST AMONG URBAN TEENAGERS - A SURVEY

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ABSTRACT:

Students in their teens are some of the most sleep-deprived people in the nation. Adolescents have a delayed circadian preference. The nocturnal preference , or shift of the circadian system to a later time , has been associated with puberty. This change occurs in association with puberty; more physically mature adolescents have a preference for later bedtimes and may have a lower homeostatic sleep drive, and consequently, are less sleepy at night.Sleep deprivation and sleepiness are caused by several reasons and have numerous negative consequences. Students get inadequate sleep because they go to bed late and wake up early which results in daytime sleepiness.It is a questionnaire based survey conducted among 135 urban teenagers. From the results , it was evident that ,when asked about the reason behind the sleep deprivation, the majority of urban teenagers (73.8%) blamed social media and games as a predominant cause , about 26.8% of them couldn't sleep due to overload of academic work. 62.2% of the participants had a habit of skipping breakfast regularly, and the major reason (66.7%) for their skipping breakfast is getting up late in the morning. It is evident from the survey that urban children need proper guidance from teachers and parents to increase the sleep duration, decrease screen time and to take a balanced breakfast every day.

INTRODUCTION:

The young people in the age group of 10-24 year in India constitute one of the precious resources of India characterized by growth and development and is a phase of vulnerability often influenced by several intrinsic and extrinsic

factors that affect their health and safety. Population aged 10-24 years accounts for 373 million (30.9%) of the 1,210 million of India's population with every third person belonging to this age group. Among them, 110 and 273 million live in urban and rural India, respectively. Males account for 195 million and females 178 million, respectively. As per the National Sample Survey (NSS), (2007-08) 32.8 percent of this group attend educational institutions and 46per percent (2004-05) are employed.(Yoshikawa et al., n.d.)

Worldwide, a lifestyle that incorporates a healthy diet and physical activity is well-documented as being preventative of non-communicable diseases (NCDs) including type 2 diabetes (T2DM) and heart diseases. Lifestyle and well-being patterns are rooted in the habits of late adolescence and early adulthood and affect health in the long term. In 2005, the World Health Organization (WHO) estimated that 61% of deaths (35 million) and 49% of the global burden of diseases were attributable to NCDs, with 80% of such deaths occurring in low- and middle-income developing countries where health resources are limited(Yang et al., 2005) .Healthy life-style and health promotion policies and programmes that are central for health of youth, driven by robust population-based studies are required in India which will also address the growing tide of NCDs and injuries.(Toma, n.d.) Recent Australian research found those who skip breakfast are likely to experience a sudden drop in blood sugar levels in the late morning, making them crave a sugary treat. This leads to a sudden surge in blood sugar and, in time, the over-stimulation of insulin. This increases the likelihood of the body’s cells becoming resistant to the effects of the hormone, allowing diabetes to set in, possibly at an early age. The excess insulin is also thought to boost the storage of visceral fat, the dangerous kind of fat which gathers around the organs in the abdomen. (Chao et al., n.d.)

According to Dr Alex Agostini, an Academic Researcher ,School of Psychology, Social Work and Social Policy , demonstrates the links between sleep and diet among school-aged children and states as follows,“Sleep is important for everyone’s health and wellbeing, but when children and teenagers regularly skip breakfast or eat junk food, their bodies and minds can suffer,” Dr Agostini also says that “When children have poor sleep and go to bed late at night, it increases their chance of missing breakfast the next morning.”(Goon and Islam, 2014)

“Later bedtimes also increase the odds of children and teenagers eating junk food more often, which is never a good thing – not only does junk food lack nutritional benefit, but it also contributes to the growing concerns around childhood obesity”.(Dykstra et al., 2016)
Sleep is an important biological necessity to maintain a healthy lifestyle. Sleep deprivation is the condition of not having enough sleep; it can be either chronic or acute. The amount of sleep required by a person may vary, but on average most adults need about 7–8 h of sleep.(5)

A chronic sleep-restricted state causes daytime sleepiness, fatigue, clumsiness, and weight loss or weight gain. It adversely affects the brain and cognitive function. However, in a subset of cases sleep deprivation can, paradoxically,

lead to increased energy and alertness and enhanced mood; it has even been used as a treatment for depression. Loss of sleep causes slower brain waves in the frontal cortex, high anxiety, shortened attention span, and a grouchy mood.(Sampasa-Kanyinga and Willmore, 2015)

Students in their teens are some of the most sleep-deprived people in the nation. Adolescents have a delayed circadian preference. The nocturnal preference , or shift of the circadian system to a later time , has been associated with puberty. This change occurs in association with puberty; more physically mature adolescents have a preference for later bedtimes and may have a lower homeostatic sleep drive, and consequently, are less sleepy at night.(Zullig et al., 2006) Sleep deprivation and sleepiness are caused by several reasons and have numerous negative consequences. Students get inadequate sleep because they go to bed late and wake up early which results in daytime sleepiness.
Most people benefit from at least 7–8 h of sleep each night, which is an adequate amount of time for a person to complete a regular sleep cycle. When students are sleep deprived, sleep cycles are disrupted and their bodies respond by decreasing their ability to concentrate and complete complex tasks. The consequences of sleep deprivation and daytime sleepiness are especially problematic to college students and can result in lower grade point averages, increased risk of academic failure, compromised learning, impaired mood(McNeely and Blanchard, 2010)

Urban school going teenagers are likely to be found more addictive towards gadgets and social media. Even though they are good at their studies they lack a holistic healthy lifestyle which includes a wholesome sleep, healthy diet and physical exercises.

Adolescence is the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19 years. It is a period of dynamic brain development. Healthy habits among children lay the groundwork for positive youth development . Most fundamental to the developing child are health habits involving sleep, diet, and exercise.(Story et al., 2002)
This study aims to assess the lifestyle habits such as eating habits, sleep duration, physical activity of Urban adolescents, and to create an awareness regarding the same.

MATERIALS AND METHODS:

Study Design

This was a questionnaire-based study using an online survey portal called “survey planet.” An e-form (https://s.surveyplanet.com/Bytn-C8k) was circulated among 135 teenage participants from Chennai, the Metro city of India. The data were collected during May 2020.The Questionnaire was prepared which included questions to assess their sleeping and eating pattern. The Questions were framed in such a way to create awareness on the effects of skipping breakfast and lack of sleep. Results were obtained using proper statistical methods, and thus, the awareness on the effects of skipping breakfast among teenagers was studied

The study subjects were recruited on a voluntary basis. The inclusion criteria required participants to be healthy, this inclusion criterion was important since we wanted to examine the lifestyle habits of healthy people. The exclusion criteria included physical deformities and chronic diseases.

Survey Instrument

The survey instrument which was a questionnaire was prepared after extensive review of the existing literature. The questionnaire was reviewed and amendments were made to improve clarity of the questions to eliminate ambiguous responses. The questionnaire consisted a total of 12 questions. The questionnaire was shared to the participants using online survey platform.

Data Analysis

Only completed surveys were taken for analysis and the incomplete ones were eliminated. The statistical test used is descriptive statistics. All the responses obtained were tabulated and reliability of the data was checked. The data was statistically analysed.

RESULTS AND DISCUSSION:

135 Urban Teenagers from Chennai took part in the survey. It was observed that the BMI of about 34.2% of the participants was found to over weight and 11.7% of them were obese. Approximately the BMI of the over weight and obese partcipants adds up to 45.9%, which is an alarming risk in terms of non communicable diseases.(Figure 1)

When asked about the habit of eating breakfast regularly,(Figure 2) there were about 62.2% of the participants who did have a habit of skipping breakfast regularly, and the major reason (66.7%) for their skipping breakfast is getting up late in the morning(Figure 3). Whereas about 33.3% of the teenagers skip their breakfast , as they don't like the food. The participants who skip their breakfast have admitted that they feel hungry in the midday and inclined to take junk foods(Figure 4).

About 49.8% of the urban teenagers are observed to go to sleep after midnight (Figure 5), whereas about 45.6% of them sleep after 10 but before 12.0am. There were only4.6% of them who admitted that they go to sleep before 10.0pm. Since the majority of them sleep after midnight ,(Figure 6) most of the teenagers(37.3%) sleep for less than 4 hours and 34.3% of them sleep for less than 6 hours. There were only 28.3% of them who took a complete 8 hours of sleep.

When aske

d about the reason behind the sleep deprivation majority of urban teenagers (73.8%) blamed social media and games as a predominant cause (Figure 7), about 26.8% of them couldn't sleep due to overload of academic work. Majority of them (83.1%,) (Figure 8) admitted that they don't have any problem falling asleep.

Though around 94.4% of the urban teenagers were deprived of sleep, there were only 56.45 of them who felt sleepiness and tired during the day (Figure 9).
Only 4.6% of the urban teenagers (Figure 10) have a habit of exercising regularly, the rest of them either have physical work out once in a while or rarely.
Around 35% of them were not aware of that the skipping breakfast and sleep deprivation were the prime reason for obesity and poor mental health (Figure 11 &12)

A majority of the urban teens (76.2%)(Figure 13) admitted that self awareness is the only preferable measure to correct sleep deprivation and the habit of skipping breakfast. Though it is the major preferable method, others have seeked the help of teachers and parents to correct their habit.

From the survey it is very much evident that the world of the urban teenager is slowly but constantly changing. Though changes like their attitude towards studies and technology is admirable , at the same time changes in the pattern of life style is alarming as it induces the occurrence of non communicable diseases and psychological problems.

Due their increased stress to excel well in academics and easily accessible gadgets are the prime reasons which leave them deprived of sleep. Most of the urban teenagers sleep less than 4 hours and in spite of it , most of them don't feel tired or sleepy during the day. The major reason is the surge in their hormone levels. But due to decreased sleep , they tend to miss their break fast and tend to take lots of junk in between the day. This seems to be the major risk factor that leads to obesity.

Two hormones that help regulate hunger—Ghrelin and Leptin—are affected by sleep: Ghrelin stimulates appetite, while leptin decreases it. When the body is sleep-deprived, the level of ghrelin spikes, while the level of leptin falls, leading to an increase in hunger.

Not only does a lack of sleep interfere with hunger signals, but there's also the problem that less time in bed simply gives more hours of the day to eat. Preventing overeating as well as obesity, starts with creating a healthy bedtime routine.
Breakfast skipping has been contended to have deleterious effects upon various physical and mental aspects. Numerous studies have found that breakfast skippers have relatively worse intake of various vitamins and minerals and nutrients that are lost as a result of skipping breakfast cannot be compensated by any meal of the day . Breakfast, despite making noteworthy nutritional contribution to dietary quality and overall health, unfortunately is, more commonly missed than any other meal . Previous studies have found that breakfast consumption has declined in all age groups over the past 25 years .(Berkey et al., 2003)
Adequate amount of sleep is also important for one's mental and physical health, for cognitive restitution, processing, learning and memory consolidation. People who sleep less are more prone to emotional instability,

cognitive dysfunction, decreased concentration, memory loss, day time sleepiness, decreased concentration and most important problem of our concern here obesity, thus inadequate sleep effects our health in a similar manner as skipping breakfast does with both short and long term influences on our wellbeing

The National Sleep Foundation recommends a minimum of 8-9 hours of sleep per day for teenagers.(Dykstra et al., 2016) This is the prime time that we educate the value of proper sleep and regular diet, not only to teenagers , but also to their parents and teachers who can motivate them. Healthy teenagers are the future healthy adults and in fact a healthy Nation. Let us all join hands in creating a Healthy India. Let's spread awareness.

Need of the Hour:

Children who regularly have breakfast have been shown to be more likely to have a better diet quality and a higher intake of key food groups, such as fruit, dairy, and dietary fibre and, furthermore, they are also more likely to meet the recommendations for micronutrients. Children who skip breakfast, instead, tend to eat more energy-dense food such as fast food leading to excess hunger and overeating.

It is evident from surveys that urban children need proper guidance from teachers and parents to increase the sleep duration, decrease screen time and to take a balanced breakfast every day.

Identifying effective obesity prevention measures for young adults is particularly important, as at this age range there is the potential to set long-term health habits. Additionally, nutrition professionals could informally screen for poor sleep or a sleep disorder and make referrals to a sleep specialist as necessary.(Mayor, 2016)

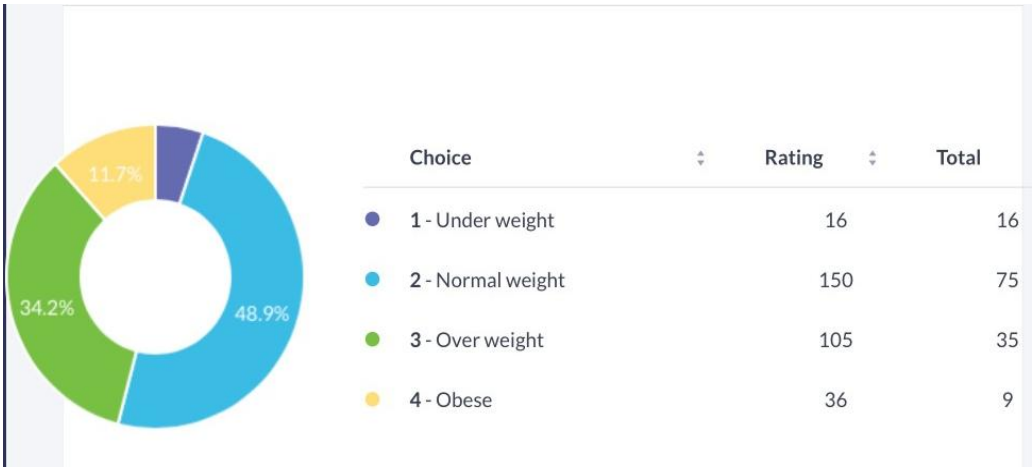

Figure 1: Pie chart represents the distribution of participants based on their BMI, where 34.2% (Green) of the participants were overweight and 11.7% (yellow) of the participants were obese.

Figure 2: Pie chart represents the distribution of participants based on their habit of taking a breakfast regularly in morning, where 37.8% (navy blue) of the participants don't have an habit of taking breakfast regularly

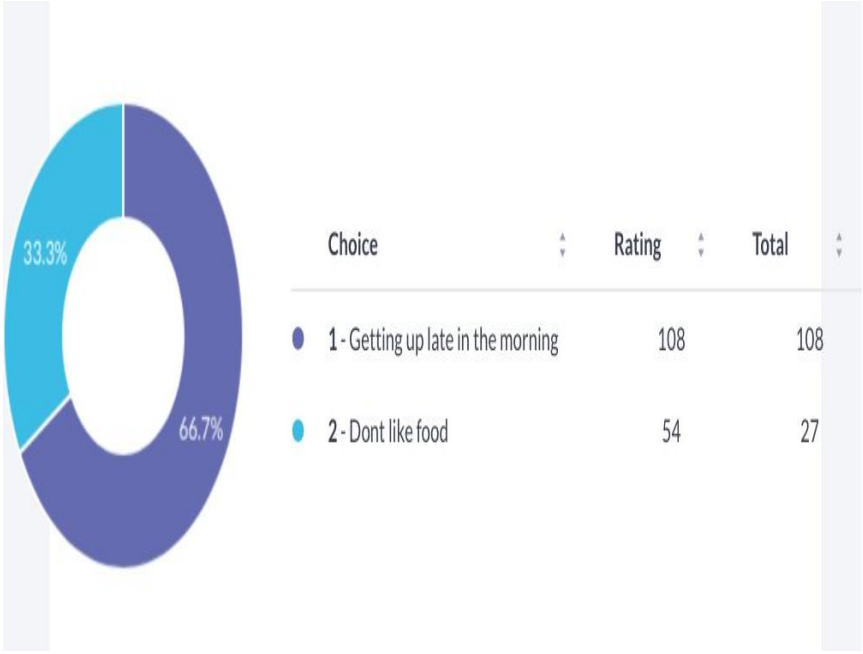

Figure 3: Pie chart represents the distribution of participants based on their reason for skipping breakfast , where 66.7% (navy blue) of the participants think that getting up late in the morning as a major cause and 33.3% (light blue) of the participants don't like the food.

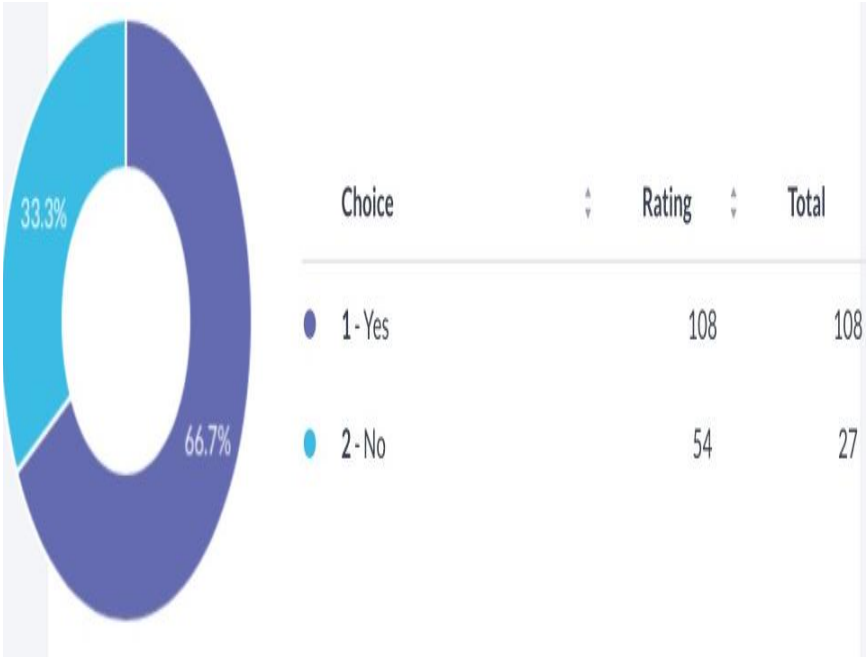

Figure4: Pie chart represents the distribution of participants based on their opinion of taking snacks or junks due to their habit of skipping breakfast,where 66.7% (navy blue) of the participants accepted taking junks and snacks as they skipped their breakfast.

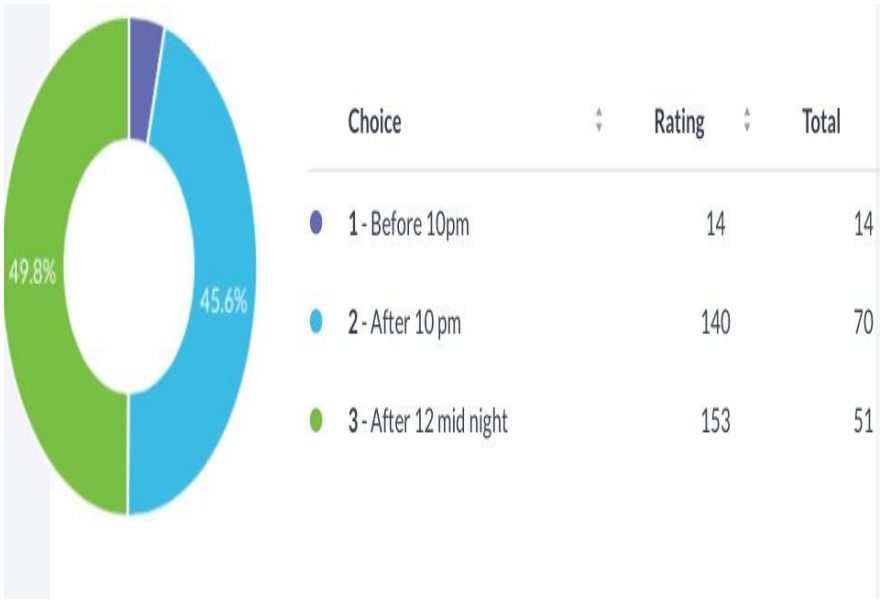

Figure5: Pie chart represents the distribution of participants based on their sleeping time,where only 14% (navy blue) of the participants sleep before 10.pm and a majority (49.8%) (Green) sleep only after 12 midnight.

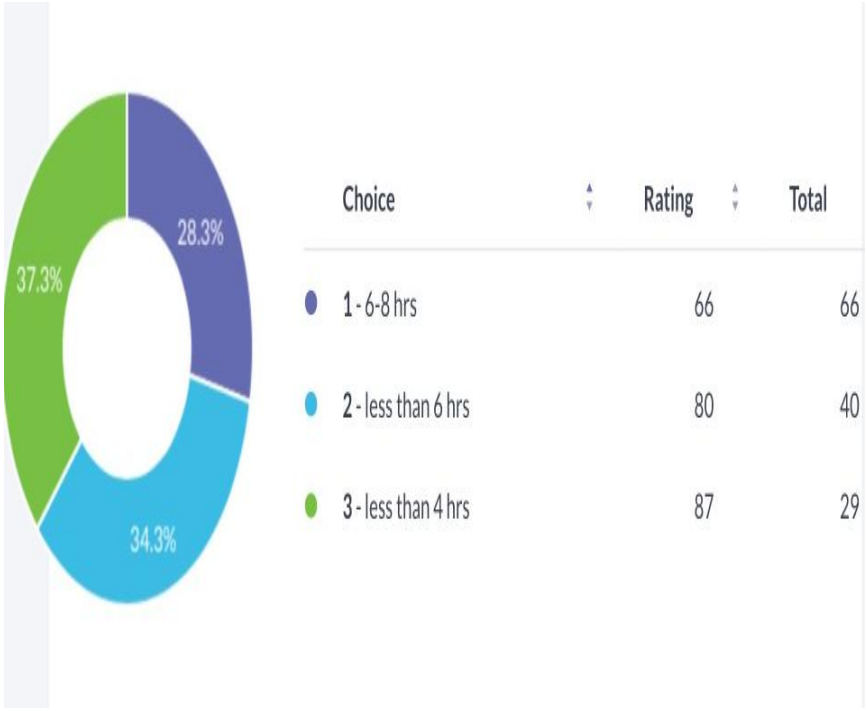

Figure6: Pie chart represents the distribution of participants based on their opinion on the duration of sleep ,where 34.3% (light blue) of the participants slept for less than 6 hours a day and 37.3%(green) of the participants slept for less than 4 hours a day.

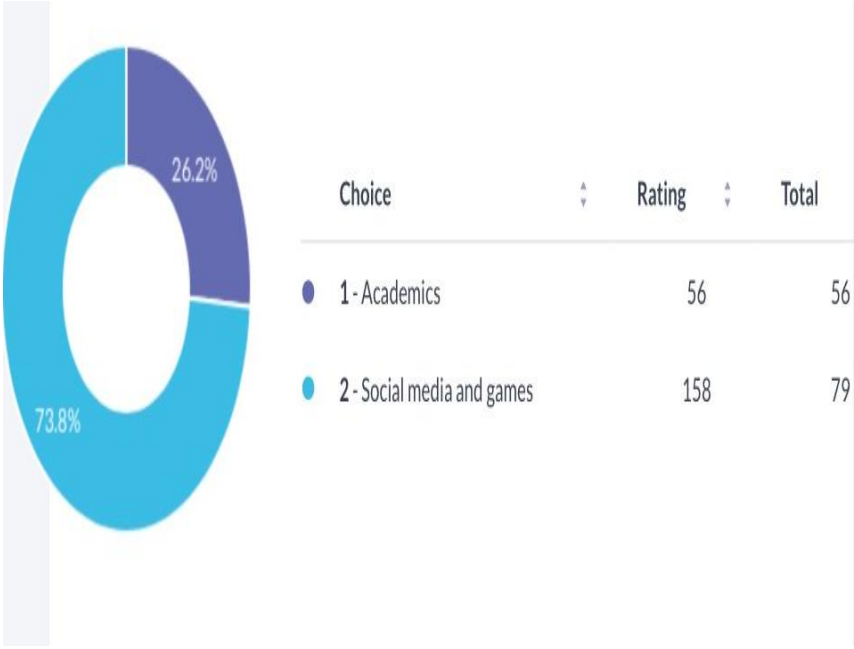

Figure 7: Pie chart represents the distribution of participants based on their opinion on the reason for sleep deprivation,where 73.8% (light blue) strongly believe that social media and games are the reason for sleep deprivation and 26.2%(navy blue) of the participants think that academic stress can be the reason.

Figure 8 : Pie chart represents the distribution of participants based on their opinion on whether they have trouble falling asleep,where 83.1% (light blue) of the participants have not experienced any trouble falling asleep.

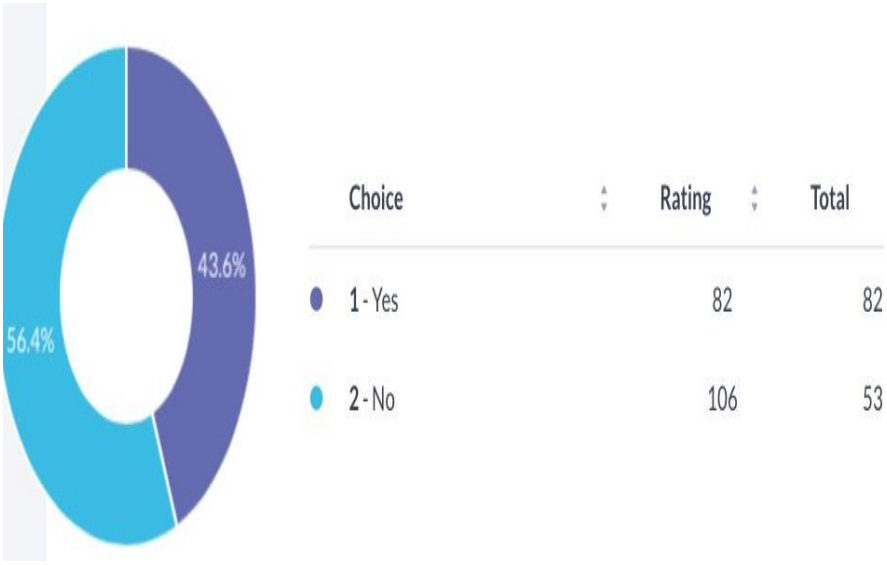

Figure 9 : Pie chart represents the distribution of participants based on their opinion on whether they feel sleepy the entire day, where 43.6% (navy blue) of the participants accepted that they feel sleepy for the entire day due to lack of sleep at night.

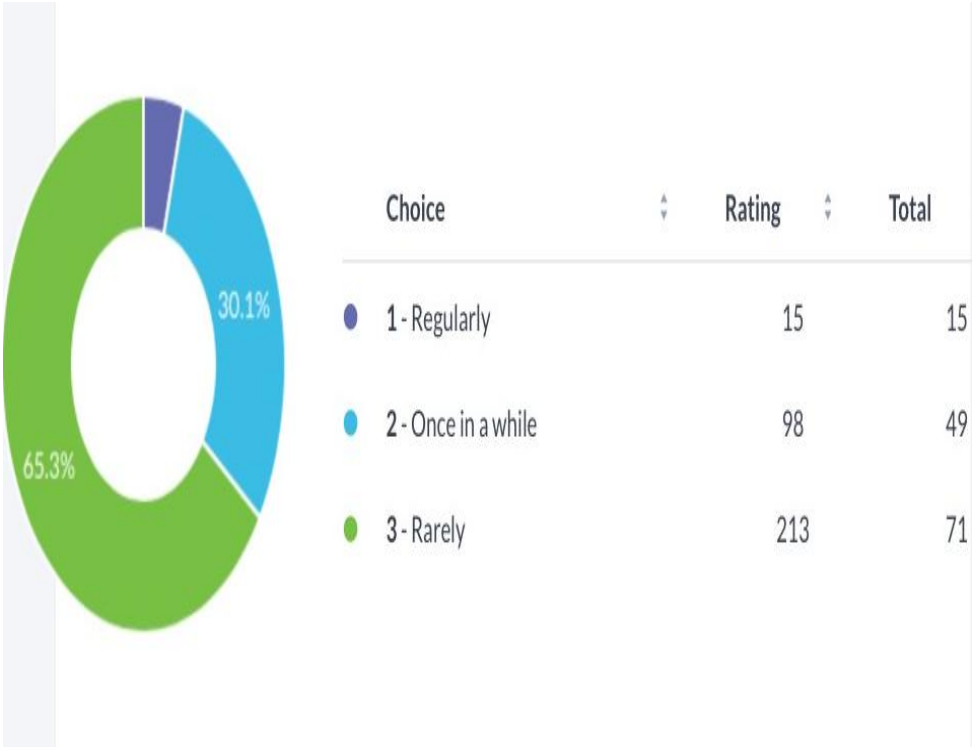

Figure 10: Pie chart represents the distribution of participants based on their opinion on having regular workouts , where 5% (navy blue) of the participants had an habit having regular workouts and a majority 65.3% (green) of the participants never had regular exercise.

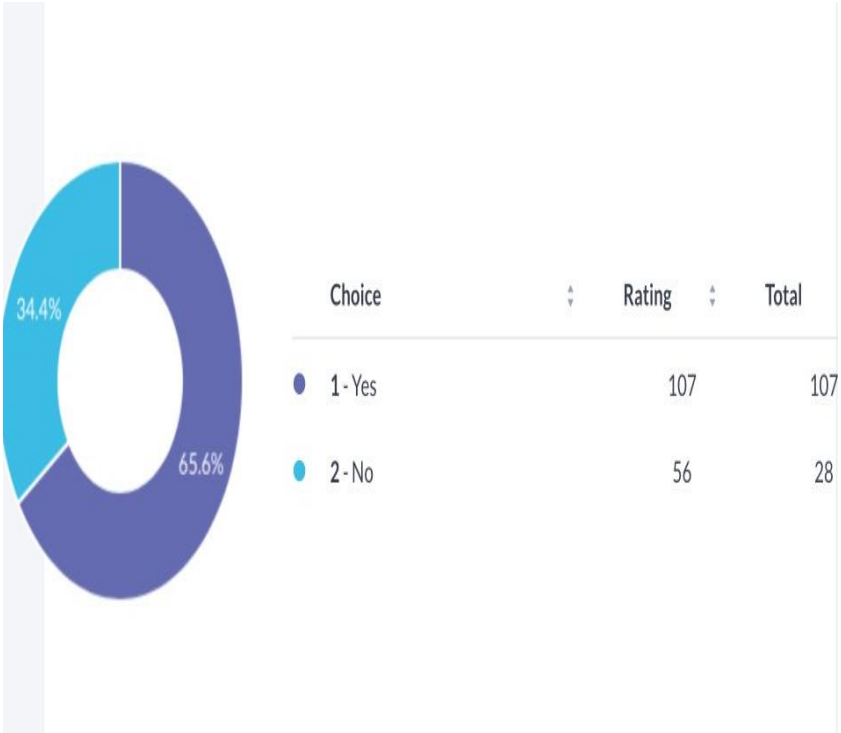

Figure 11: Pie chart represents the distribution of participants based on their awareness on skipping breakfast can lead to obesity ,where 65.6% (navy blue)

of the participants accepted that they were aware of the relation between continuous skipping of breakfast may lead to obesity

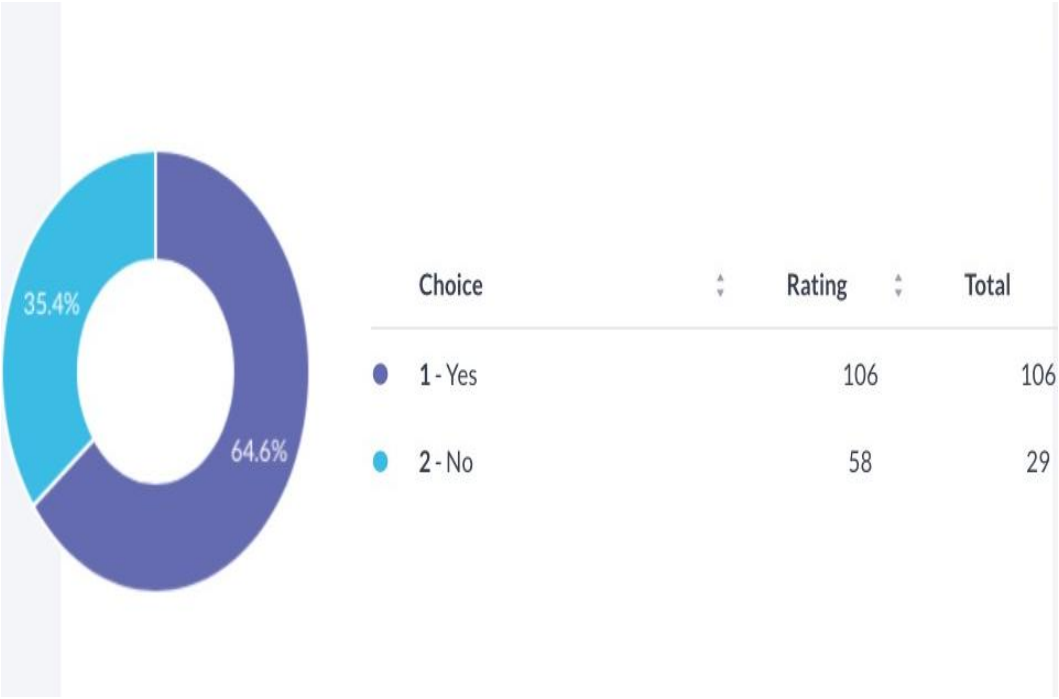

Figure 12: Pie chart represents the distribution of participants based on their awareness on skipping breakfast can lead to poor mental health ,where 64.6% (navy blue) of the participants accepted that they were aware of the relation between continuous skipping of breakfast may lead to poor mental health .

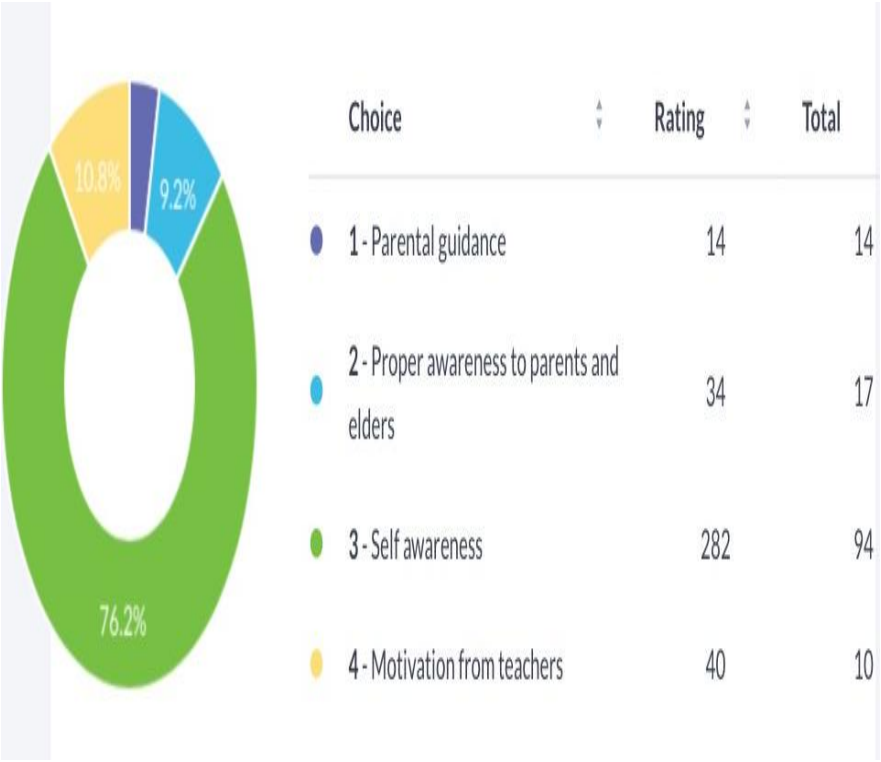

Figure 13: Pie chart represents the distribution of participants based on their opinion on the measures to be taken to correct sleep deprivation and regular skipping of breakfast,where a majority 76.2% (green) of the participants think that self awareness is the best remedy.

CONCLUSION:

"Precaution is better than cure", similarly awareness on the importance of sleep and proper diet spread in the right time can reduce the risk and spread good health.It is evident from survey that urban children need proper guidance from teachers and parents to increase the sleep duration, decrease screen time and to take a balanced breakfast every day.Identifying effective obesity prevention measures for young adults is particularly important, as at this age range there is the potential to set long-term health habits

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CONFLICT OF INTEREST

The authors declare that there were no conflicts of interest in the present study

REFERENCES:

Berkey CS, Rockett HRH, Gillman MW, et al. (2003) Longitudinal study of skipping breakfast and weight change in adolescents. International journal of obesity and related metabolic disorders: journal of the International Association for the Study of Obesity 27(10): 1258–1266.

Chao C-YJ, Chung-yee and Chao J (n.d.) Systematic review on breakfast skipping among children and adolescent. DOI: 10.5353/th_b4517092.

Dykstra H, Davey A, Fisher JO, et al. (2016) Breakfast-Skipping and Selecting Low-Nutritional-Quality Foods for Breakfast Are Common among Low-Income Urban Children, Regardless of Food Security Status. The Journal of Nutrition. DOI: 10.3945/jn.115.225516.

Goon S and Islam MS (2014) Breakfast skipping and Obesity risk among urban adults in Bangladesh. International Journal of Public Health Science (IJPHS). DOI: 10.11591/ijphs.v3i1.5653.

Mayor S (2016) Skipping breakfast and poor sleep linked to childhood obesity, study finds. BMJ. DOI: 10.1136/bmj.i6141.

McNeely C and Blanchard J (2010) The Teen Years Explained: A Guide to Healthy Adolescent Development. Center for Adolescent Health at Johns Hopkins Bloomberg School of Public Health.

Sampasa-Kanyinga H and Willmore J (2015) Relationships between bullying victimization psychological distress and breakfast skipping among boys and girls. Appetite. DOI: 10.1016/j.appet.2015.01.020.

Story M, Neumark-Sztainer D and French S (2002) Individual and environmental influences on adolescent eating behaviors. Journal of the American Dietetic Association 102(3 Suppl): S40–51.

Toma M (n.d.) Sleepless in Chennai: The Consequences of Sleep Deprivation Among the Urban Poor. AEA Randomized Controlled Trials. DOI: 10.1257/rct.2494.

Yang C-K, Kim JK, Patel SR, et al. (2005) Age-related changes in sleep/wake patterns among Korean teenagers. Pediatrics 115(1 Suppl): 250–256.

Yoshikawa E, Nishi D and Matsuoka YJ (n.d.) The relationship between skipping breakfast and depression among workers with a focus on psychosocial factors. DOI: 10.21203/rs.2.11219/v1.

Zullig K, Ubbes VA and Pyle J (2006) Self-reported weight perceptions, dieting behavior, and breakfast eating among high school adolescents. The Journal of school health. Wiley Online Library. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1746-1561.2006.00074.x.