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EFFECT OF SPENDING TIME IN TV, SCREEN IN RELATION TO HEALTH HAZARDS AMONG ADOLESCENTS

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Abstract: In modern societies, adolescents are exposed to mass media. This is because social media applications provide users with advantages in accessing to a wide variety of information, networking opportunities, enjoyment, taking part in events, and playing online games from any location and at any time paving the way to increased long-term uses lead to social media addiction. Prolonged used of social media increases the risk of eating disorders in adolescents. The most common media outlet for food-related messages is television. Adolescents who watch TV for extended periods of time are especially vulnerable to bad eating habits. Adolescents are exposed to numerous food commercials such as junk foods and soft beverages that are high in energy and fats while watching television. This addiction to media not only fosters unhealthy eating habits but also inhibits levels of physical activity and leads to an increase of sedentary behaviors. Spending hours on social media and other screens reduces chances to engage in physical activity, which ultimately results in weight gain and a rise in body mass, which can trigger obesity and other numerous health hazards. It is a descriptive study of 251 adolescent girls aged between14-19 years were selected by simple random sampling technique. Data was collected by means of structured questionnaire. The more exposure to screen time and watching TV paving them to have snacking habits and lesser physical activity that leads to health hazards.

Index Terms **- Screen, nutritional, health, hazards, adolescents, and girls**

I. INTRODUCTION

The use of social media, video games, downloaded television, music, and films, as well as the internet, has grown significantly during the last decades. About 4.66 billion people use the internet globally, with India accounting for a large share of this population. Mobile gaming and social media users have increased in both India and globally. While video games have become wildly popular among adolescents, they incorporate more recent "social networking applications" like Whatapps, YouTube, Instagram, Facebook, etc into their daily lives (Weiss *et al*. 2011, Shehata & Abdeldaim, 2021 and Olson *et al*. 2007).

The overall amount of time spent each day staring at screens—whether on a computer, tablet, television, mobile phone, or any other portable or gaming device—is known as screen time. Both the American Academy of Pediatrics (2016) and the Australian Government Department of Health (2021) had recommended that adolescents should not spend more than two hours a day on sedentary and recreational screens (Chassiakos *et al*. 2016).

The health effects on increasing incidence of screen time can lead to anxiety, melancholy, irritability, aggression, low mood, and cognitive and socio-emotional development resulting to poor academic performance and suicidal thoughts (Goel *et al*, 2013, Stiglic & Viner, 2019 and Kim *et al*, 2018)]. The

addiction to screen linked to poor sleeping quality, decreased sleep efficiency, increased exhaustion, and other negative effects. Screen addiction causes a number of more recent pathological characteristics including anxiety and nomophobia (Exelmans & Van Den Bulck, 2017, King et al, 2012 and Gonçalves et al, 2020) and increased weight gain, risk of dry eye illness, abnormal posture and obesity.

Overweight is a result of increased consumption of processed foods which are low-nutrient but high calorie when using screens. According to Braithwaite *et al.* (2013), watching television has been positively associated with an increase in the waist-to-hip ratio, which leads to obesity as a result of a sedentary lifestyle. The association between television viewing and diet quality has also been linked to snacking when watching videos or television. The bulk of food advertisements' content contradicts dietary guidelines since they usually include snack like sweets, soft drinks, processed foods, and fast food (Epstein *et al*, 2002, Harrison *et al, 2005,* Tara & Gage, 1995,and Dietz & Strasburger, 1991). Food advertisements also promote unhealthy eating behaviours, as viewing television is associated with consuming more heavily advertised goods and less food that are rarely featured in commercials *(*Boynton *et al, 2003,* Wiecha *et al, 2006).* Prior studies have found that viewing television is associated with unhealthy eating patterns in adolescents, including a decrease in consumption of fruits and vegetables and consumption of fast food, high-fat meals, and sugar-sweetened beverages (Harrison & Marske, 2005, Taras & Gage, 1995 and Dietz & Strasburger, 1991).

II. MATERIALS AND METHODS

The study was conducted on adolescent's girls from Lamka area of Churachandpur district, Manipur. For the present study, the samples were selected from 10 institutions on simple Random sampling. The subject was selected from the aged of 14 to 19 years old. The sample size was derived as N=251.

The tools selected were self-administered questionnaire which consists of the questions regarding spending time in TV screen, eating behaviour and waist to hip ratio (WHR) was assessed.

III. RESULTS

Table 1: Age wise distribution

Age wise	Female	Percent
14-16 years	112	44.62
17-19 years	139	55.38
Total	251	49.60

Majority (55.38%) of the respondents was in the aged group of 17-19 years who are in late adolescence stage because they are more active on social media due to their emphasis on independence and forming friendships outside of their immediate family. So, social media makes it simple for them to connect with peers, manage their social identities, and pursue interests (Valkenburg *et al*, 2010, Barker, 2009)

Table 2: Frequency distribution of WHR Category

Health risks	Number N=251	Percent
Low (≤0.80)	144	57.37
Moderate (0.81-0.85)	63	25.1
High (≥0.86)	44	17.53

***American Heart Association, (2005)**

Majority (57.37%) of the respondents had low visceral central obesity. While 25.1 percent had moderate and 17.53 percent had high level of visceral central obesity. Visceral central obesity is strongly associated with cardio-metabolic risk (Elffers *et al*, 2017).

Table 3: Duration of watching social media -Hours spent/day

Duration	**Number n=251**	**Percent**
Less than 2 hour	109	43.43
More than 2 hours	142	56.57

According to American Academy of Pediatrics (2016) and the Australian Government Department of Health (2021), the recommended screen time should not exceed more than two hours a day on sedentary and recreational screens but the present study show that majority (56.57%) of the respondents spent more than two hours a day in watching social media which may have impact on one's physical and mental health leading to an increased risk of obesity, eyestrain, poor posture; disturbed sleep patterns, (Alamri *et al.* 2022) and mood disorders such as anxiety, and depression (Twenge *et al.* 2017)

Influence of food advertisement in social media on eating behavior

Out of 251 subjects, 92.83 percent of the subjects respond that food advertisement in social media influenced their eating behavior. Adolescents who are constantly exposed to food commercials may develop cravings and eating habits as a result of the visual cues, brand messaging, and repetition. Regularly seeing food advertisements triggers them to crave for junk food, which leads to overeating (Chapman *et al*, 2006, Powel *et al*, 2007). Advertising for sugary drinks and snacks has been connected to increased consumption of these goods, particularly among the adolescents (Halford *et al*. 2009, Harris *et al.* 2009)

Table 4: Effect of food advertisement in social media on adolescent eating behaviour

Eating behaviour	Number n=233	Percent
Influence on food choice after watching TV	67	28.76
Snacking during screen time	46	19.74
Interested on packed and ready to eat food	109	46.78
Avoiding homemade traditional meals during screen time	05	2.15
Eating fruits, nuts, vegetables during screen time	06	2.70

The majority of respondents 46.78 percent indicated that they were interested in packaged and ready-to-eat meals after watching food advertisement. The packed and ready made foods are processed that are rich in calories, salt, sugars and fats leading them to weight gain, high blood pressure, diabetes (Tsochantaridou *et al.* 2009) and potential health complication like heart diseases (Rey-Lopez *et al*. 2012). According to numerous studies, preservatives foods items are artificial coloring, benzoate preservatives, non-caloric sweeteners, emulsifiers, and their breakdown products increase the risk of mental health, attention deficit hyperactivity disorder, cardiovascular disease, metabolic syndrome, and possibly even cancer (Poti *et al.* 2015).

Approximately 28.76 percent of those surveyed accepted that watching TV affected their choice of meals. Watching television can have a big impact on their meal choices because they are exposed to characters in food advertisements and they try to replicate the characters. These advertisements frequently encourage excessive consumption of unhealthy and high-calorie snacks, which can lead to poor diet quality and an increased risk of becoming overweight causing metabolic diseases and diabetes in future. In particular, posts about food made by individuals or food companies and shared by non-experts on the internet may deliver false nutrition information, which can lead to binge eating and other eating behavior (Warner, 2024).

About 19.74 percent of respondents had the practice of nibble eating while using screens. Adolescents focus stays on the video rather than their meal. They consume more snacks even didn't complain since they are still preoccupied with the video that causes them to binge eating and become obese (Dutchman *et al.* 2022).

A minority (2.70%) tended to eat fruits, nuts, and vegetables during screens as these adolescents had more knowledge on healthy eating habits, whereas 2.15 percent avoided eating traditional or home-cooked meals during this period. Adolescents frequently consume sugar-sweetened beverages and snacks in excess, while low consumption of fruits and (He *et al.* 2024, Cakir *et al.* 2023) will degrade the quality of their diet, resulting in overweight and obesity and raising the risk of developing chronic illnesses as adults (Bu *et al*. 2021).

Table 5: Distribution of WHR Vs Screen time

WHR / Screen time	Number N=251					
	Low n=144	%	Moderate n=63	%	High n=44	%
Less than 2 hrs	61	42.4	31	49.21	17	38.64
More than 2 hours	74	57.64	32	60.8	27	61.36

Among high visceral central obesity, majority (61.36%) responded that they screen for more than 2 hours a day. Higher risks of metabolic disorders may be due to addiction to screen time. Increased screen exposure had been linked to a number of negative lifestyle outcomes in adolescents including irregular eating patterns, less physical activity associated to sedentary behaviour, short sleep duration causing insomnia (Bornhorst *et al*. 2015, Lam *et al.* 2009). This might develop serious health hazards like developed obesity, cardiovascular diseases, diabetes and even cancers (Choi *et al*. 2009) among this group.

Table 7: Effect of food advertisement in social media on eating behavior related to WHR.

Eating behavior	Number N=233					
	Low risk n=132	%	Moderate n=59	%	High risk n=42	%
Influence on food choice after watching TV	37	28.03	18	30.51	12	28.57
Snacking during screen time	29	21.97	12	20.34	05	11.9
Interested on packed and ready to eat food	59	44.7	26	44.1	24	57.14
Avoiding homemade traditional meals during screen time	04	3.03	00	00	01	2.38
Eating fruits, nuts, vegetables during screen time	03	2.27	03	5.08	00	00

Among the subjects who had high visceral central obesity, 57.14 percent had interested on packed and ready to eat food, causing metabolic disorder. The foods they consumed are mostly made up of processed and preservatives foods. The processed foods are high-calorie, low-nutrient-dense foods, and are more likely to cause obesity, which can increase the risk of developing chronic illnesses like type 2 diabetes, hypertension, and Gut problems (Centre for Disease Control and Prevention, 2016). Additionally, obesity lowers life expectancy and raises the risk of cardiovascular disease-related morbidity and mortality (Gunnel *et al.* 1998). Several artificial food coloring substances are made from coal tar and have an azo-group that can cause substantial health problems such as cancer, skin diseases; organ damages (Yang *et al*. 2011) and is a primary cause of food intoxication.

Among the subjects, 2.27 percent and 5.08 percent from low and moderate visceral central obesity respectively, consumed fruits, nuts and vegetables during screen time. These adolescents were having healthy eating habits and they are also aware about nutritional knowledge. They are more likely to have a greater quality of life and psychological heath and reduced risks of chronic diseases in adults (Amin *et al.* 2010, Rodriguiez-Ayllon *et al*. 2019 and Menakaya, 2022). Among the samples that had higher visceral central obesity, it was observed that none of them consumed fruits, nuts, and vegetables during screen time. They might have high risk of metabolic disorder which is in health hazards.

IV. CONCLUSION:

In the present study, majority of the adolescents was in the aged group of 17 to 19 years who are in late adolescence period. Majority of the subjects had low WHR and spent more than 2 hours a day in watching social media because it allows them to connect with their peers, discovered their identities, managed their social status and keep up with the trends. Most of the subject reported that social media food advertisements affected their eating habits and indicated that they are associated with packed and ready to eat foods. Among the subjects who were interested on packed and ready to eat food majority of them had high visceral central obesity and very low consumption of fruits, nuts and vegetables, causing metabolic disorder. Awareness has to be created on healthy eating habits in order to prevent the health hazards

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