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INFLUENCE OF MASS MEDIA ON HEALTH AND DIETARY PATTERN AMONG ADOLESCENT GIRLS (15-19 YEARS)

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Abstract:

Mass media plays a crucial role in health by disseminating information and knowledge on various aspects relevant to the target groups. Adolescents are active users of mass media broadcast on radio and television, printed magazines, Internet. Pictures in magazines had a strong impact on girls perceptions of their weight and shape.

Aim: The aim of the study is to see the influence of mass media on the health and dietary patterns of adolescent girls.

Objectives:1)To assess nutritional status by a 24-hour dietary recall. 2)To analyze the nutritional status using anthropometric measurements. 3)To assess physical activity, medical history, sleep pattern, eating pattern and reproductive history. 4)To observe what factors influence the diet, health and eating habits of adolescence.

Method: The study was conducted in Dr. BMN College of home science and MMP Shah college of arts and commerce. A Purposive convenient sampling technique was used. Total 100 students were enrolled in this study. The tools used to collect data were questionnaire and 24- hour dietary recall. Data collected were coded in Microsoft Excel and statistical analysis was done using SPSS to interpret the result.

Result and discussion: The majority of students (53%) informed that the media creates a great impact on their food choices. A highly significant correlation was seen between Macronutrient intake (calorie and protein intake) and Media ($p<0.05$). The mean calorie and protein intake of the students was 1027.45 kcal/d and 24.99 gm/d. When mean intake was compared with the Recommended Dietary Allowance (RDA), it was observed that mean intakes was low. Iron intake is found to be very less 2.09 mg as compared to the Recommended Dietary Allowance (RDA). Dietary patterns revealed that the girls skipped their meals and the most commonly skipped meal was breakfast (48%). From the data, it was found that adolescents slept for only 4-5 hours and had sleep disturbances. A highly significant correlation was seen between sleep and health ($p<0.05$). Conclusion: The study concluded that the media creates a great impact on adolescents food choices and disturbs sleep patterns thus affecting health.

Key Words: Media, Dietary Pattern, Sleep and Health

I. INTRODUCTION

The role of media in our everyday lives has changed dramatically over recent decades and its influence on cultural and social practices, such as eating habits, is now extensive [(1)]. In India, adolescents (from 10 to19 years) accounted for 22.8% of the population and they face a series of serious nutritional challenges that are affecting not only their growth and development [(2)]. Eating behaviors like skipping meals, eating out, and snacking were common among these adolescent girls. As a result, their diets remain deficient with energy, protein, iron, niacin, vitamin A, and fiber. Advertising for fast food and beverages communicates potentially powerful food consumption clues, including the images of the attractive models eating behavior through, television; advertisers can reach and manipulate the minds of the consumers. [(4)] Pearson et al. concluded that TV viewing positively associated with energy-dense snack consumption among adolescent. Furthermore, TV viewing has play a significant role in adolescents unhealthy eating behavior [(5)] Moreover, viewing pictures on social networking sites was found to be associated with the use of laxatives/ diet pills/ diuretics to lose /control weight [(6)]. Foods advertised on television tend to oversupply nutrients associated with chronic illness (e.g. saturated fat, cholesterol and sodium) and undersupply nutrients that help protect against illness such as fiber, vitamins A, E, and D, calcium and potassium [(7)]. However, Powell et al. 2007 [(8)] reported that 89.4% of food advertisements viewed by adolescents were high in fat, sugar or sodium. Television is a powerful medium for marketing and advertising products. There is evidence to suggest that greater TV watching is associated with increased consumption of snacks, sweetened beverages and fast foods [(9)]. So the present study has been designed to see the effect of social media on diet, health and eating habits among adolescent girls.

II. RESEARCH METHODOLOGY

The present study has been carried out to see the influence of mass media on the health and dietary patterns of adolescent girls (15-19 Years). The research proposal was approved by the Institutional ethical Committee (IEC) to continue further research. The study was conducted in Dr. BMN college of Home science and MMP Shah of arts and commerce (Matunga East). Purposive convenient sampling method was used for participants. Total sample size was 100.

Survey method was used with a self-administered questionnaire as a tool for data collection which had background data, anthropometry, diet survey etc.

Nutrient intake was calculated based on the nutritive value of Indian foods given by the IFCT (2019). Analyses were performed using SPSS software. Statistical tests such as Post hoc comparison test, mean, standard deviation and chi-square test were applied.

III. STATISTICAL TOOLS

Analyses were performed using SPSS software. Pearson's chi square correlation was used to find correlation between kind of sleep disturbance and health. $p<0.05$ was considered to be statistically significant. Post comparison correlation was used to find correlation between which form of media creates a greater impact on their food choices and macronutrient intake.

IV. RESULT AND DISCUSSION

The study includes 100 subjects taken from Dr. B.M.N College of home science and MMP Shah of arts and commerce. The mean age of the students is 17 years.

Table 1- Anthropometric Measurements of the Study Participants

	N	Mean	Std. Deviation
Height	100	154.09	7.55
Weight	100	51.01	11.91
BMI	100	21.8	4.92
WHR	100	0.92	0.17

From the above table, it was observed that the mean height and weight of the adolescents who participated in the study were 154.09 cm (SD=7.55) cm and 51.01 kg (SD=11.91). The mean BMI was 21.8 kg/m2 (SD=4.92) which is high according to Asian BMI Cut-offs and it reveals that the adolescents belonging to this group of BMI were overweight. The mean WHR of the student in the study was 0.92cm (SD=0.17) which is high according to Asian Waist to Hip Ratio (WHR) classification.

Figure no.1- Sleep experience at night

The figure depicts that 68% experienced sleep disturbance and 32% of the students did not experience any sleep disturbances.

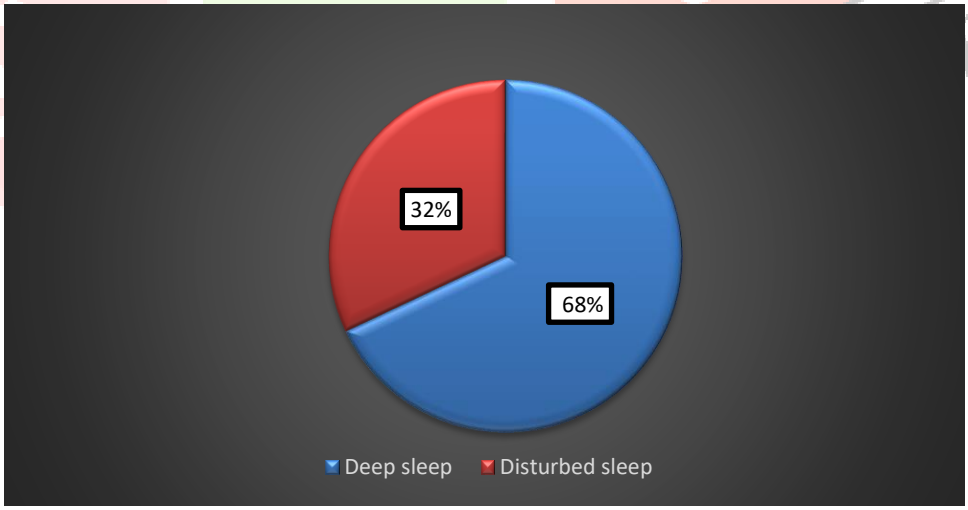
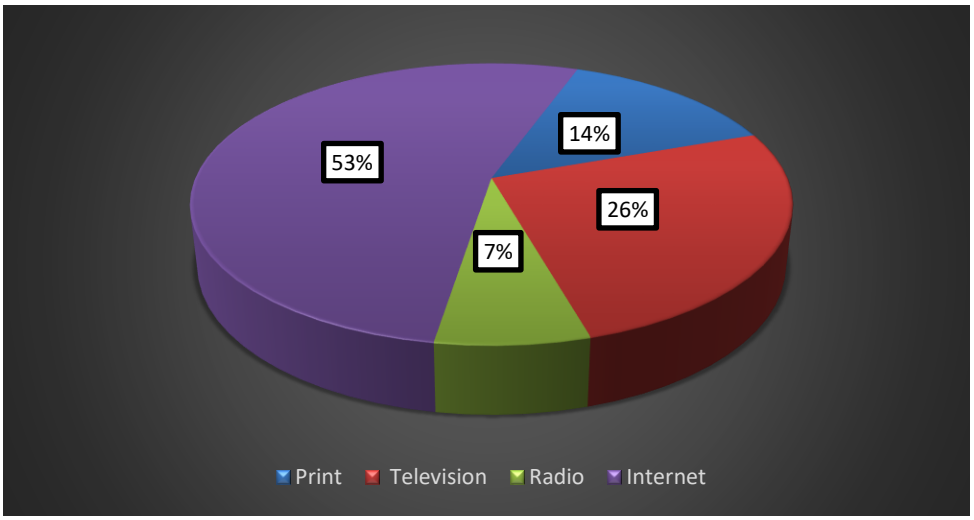


Figure no.2- Effect of Mass Media on Food Choices

In figure no.2 Majority of students i.e. 53% informed that internet creates greater impact on their food choices, 26% of students informed television, 21% of students informed print and internet creates greater impact on food choices (i.e. 14% and 7%).



❖ **Correlation:**

Table 2 - Correlation between kind of sleep disturbance and health:

	Value	df	p-value
Pearson Chi-Square	12.123a	1	.001
N of Valid Cases	100		

The above table shows significant correlation between sleep disturbance and health ($p < 0.05$). High level of sleep disturbance was associated with worse mood, high blood pressure and higher waist/ hip ratios [(10)] As shown in above Fig no.1 it was observed that 68% experienced sleep disturbance and 32% of the students did not experience any sleep disturbances.

Thirty-six study reported that the electronic media including television viewing, use of computers, electronic gaming, internet, mobile telephones and music have created a negative impact on the sleep of children and adolescents [(11)] which in turn related to depressive symptoms and delays melatonin production. Excessive electronic media use at night is a risk factor for both adolescents sleep disturbance and depression. [(12)]

Table 3- Nutritional intake of students:

Macronutrient intake	**Mean**	**RDA**	**Difference**
Energy	1027.45 kcal	1900 kcal	872.55 kcal
Protein	24.99 gm	55.0gm	30.01 gm
Carbohydrate	130.16 gm	-	-
Fat	39.12 gm	-	-
Iron	2.09 mg	21	18.91

The mean calorie and protein intake of students who participated in the study was 1027.45 kcal/d and 24.99 gm/d. When mean calorie intake was compared with the recommended dietary allowance (RDA), it was observed that mean calorie and protein intake was low. Iron intake is very less as compared to RDA (<21 mg/d).

❖ **Correlation:**

Table 4- Correlation between which form of media creates a greater impact on their food choices and macronutrient intake.

Post Hoc Comparison Test

Dependent Variable	(I) MR4 Which forms of mass media creates a greater impact on your food choices?	(J) MR4 Which forms of mass media creates a greater impact on your food choices?	Mean Difference (I-J)	Sig.
Energy (kcal)	1 Print	2 Television	30.69972	.877
		3 Internet	-420.81250	.105
		4 Radio	67.03321	.721
	2 Television	1 Print	-30.69972	.877
		3 Internet	-451.51222*	.049
		4 Radio	36.33349	.797
	3 Internet	1 Print	420.81250	.105
		2 Television	451.51222*	.049
		3 Internet	487.84571*	.027
	4 Radio	1 Print	-67.03321	.721
		2 Television	-36.33349	.797
		3 Internet	-487.84571*	.027
Protein (gm)	1 Print	2 Television	3.99333	.349
		3 Internet	-5.77667	.288
		4 Radio	2.30357	.565
	2 Television	1 Print	-3.99333	.349
		3 Internet	-9.77000*	.045
		4 Radio	-1.68976	.575
	3 Internet	1 Print	5.77667	.288
		2 Television	9.77000*	.045
		4 Radio	8.08024	.080
	4 Radio	1 Print	-2.30357	.565
		2 Television	1.68976	.575
		3 Internet	-8.08024	.080

A highly significant correlation was seen between energy and media i.e. Television and Internet ($p < 0.05$). As the use of the Internet and television increased energy consumption was seen to be decreased. Also, there was significant correlation was seen between protein and media i.e. Television and Internet ($p < 0.05$) as the use of the Internet and television increased protein consumption was seen to be decreased. Watching television during family meals was associated with poorer dietary intake among adolescents. (13)

According to Freisling et al. study Newspaper articles, the Internet, and booklets are used as a source of nutrition information which is positively associated with daily fruits and vegetable consumption among adolescents whereas exposure to internet commercials creates a negative impact. (14)

From the above table it was concluded that Post hoc comparisons showed no significant differences between media and Carbohydrates, Fats and Iron intake.

V. CONCLUSION

The mean calorie and protein intake of participants in the study was 1027.45 kcal/d and 24.99 gm/d. When mean intake was compared with the Recommended Dietary Allowance (RDA), it was observed that mean intakes was low. Students informed that media (i.e. Television & Internet) creates a great impact on their food choices. There was a highly significant correlation seen between media i.e. Television & Internet choices ($p < 0.05$) and Macronutrient intake (calorie and protein). On the other side, highly significant correlation was seen between sleep and health ($p < 0.05$). The majority of adolescents (44%) reported that they were tired in the morning. So the study concluded that the media creates a great impact on adolescents food choices and disturbs sleep patterns thus affecting health.

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