

## Media Influence on Dietary Practices Among Young Adults of Kolkata

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According to The Asian College of Journalism (ACJ) India has more than 600 million active internet users in 2021. Overall, 52% of the population depends on online media, including social media for news, 59% on TV, 50% on print and 63% on social media like Facebook and WhatsApp. In the present era, all the important decision-making approaches in nutrition science mostly depend on current available scientific evidence. Translation of scientific evidence to nutrition communication and marketing involves a number of challenges. As at present we are living in a time where plentiful information is available, yet sometimes causes miscommunication. Media does not give authentic information all the time and the population who are mostly affected are younger people. They tend to get influenced by the dietary information mostly. The objective of the present study was to find out the association between media influence and dietary practices and also to find out the current nutritional status of the respondent. The study was an observational descriptive study based on a pretested standardized questionnaire. This study included both males and females of a specific age group of 20-25 years. The location of the study was Kolkata, West Bengal with a sample size of 101. Alarming 94% of the respondents agreed that they see advertisement in the media, among them 62.1% were overweight or obese. It was observed that most of them get highly influenced by sports personalities followed by celebrities, it might be because they relate the sports celebrities more with fitness. From a health point of view there is a huge indulgence in processed foods, ready to eat foods and even junk foods. The advertisement and knowledge shared by the media need to be moderated by the administration and the companies need to further broaden their research so that the youth won't be affected by false information. Proper nutrition education to the masses is also another challenge, faced by the Indian food market. To mark the growing challenges in protecting India from pseudoscience, practitioners, nutrition researchers and policy makers should work together to ensure efficiency and relevant collection of nutrition information.

**Keywords:** Media; young adults; Diet patterns; Health behavior**Introduction**

Nutrition is important for the better accomplishment of human rights-especially those of the most vulnerable group of any population, locked in one intergenerational cycle of multiple

deprivation. Adolescence is the phase of life stretching between childhood and adulthood and it includes various changes psychologically, physically [1]. Due to their life style and peer pressure, they largely depend on media for health information as

well as they get influenced with promotional gimmick [2]. Media does have a productive influence on health but it also promotes unhealthy foods which results in consumption of alcohol, smoking and even low nutritional foods [3]. Unhealthy lifestyle during young adulthood can be associated with increased risk with many non-communicable diseases including atherosclerosis in the Middle Ages [4]. Unfortunately, media literacy still predisposes one major gap regarding informed decision-making by the consumers [5].

Malnutrition is a serious problem. It is widely seen in different parts of the world and nowadays it is becoming one significant global health problem. Unfortunately, out of the seven billion population of the world, at present 2 billion are suffering from micronutrient deficiencies and 800 million are suffering from calorie deficiencies, 2 billion were affected with obesity/overweight [6,7]. According to a recent report the trends observed among the younger generation is that they have more body fat percentage than the other generation and one of the influential reasons can be due to high consumption of food and beverages, commonly promoted on television and other digital media [8]. However, in last few years studies have revealed there is less usage of news from radio and television nowadays the information mostly used are from social media, google YouTube [9].

In the present era, all the important decision-making approaches in nutrition science mostly depend on current available scientific evidences. Translation of scientific evidence to nutrition communication and marketing involves a number of challenges. As at present we are living in a time where plentiful information is available, yet sometimes causes miscommunication [10]. The increasing number of people do excessive search for nutrition information on digital platforms, and this may be flawed sometimes. In these regards reports are showing that weight-loss information's while gathered online remains to be of inferior quality [11]. Misinformation is common in many health disciplines, although nutrition related discipline experienced unique, as everyone has direct experience on food and nutrition [12]. This represents a challenge to the practitioners, research community and consumers as well. It rises the basic queries that how we can be able to collect, translate and implement evidence in nutrition. Hence critical examination of current evidence-based nutrition and identify strategies for improving better nutrition communication and marketing is essential. Globally current approaches in evidence-

based framework remains critiqued especially in identifying gaps [13].

A cross sectional study has been done by authors to visualize the effect of media on diet and physical performance on young adults. On a positive note, the physical fitness has increased at the end of the experiments even healthy modifications of food has been taken place to maintain the healthy wellbeing though this are self-reported measures [9].

In a survey conducted by ASSOCHAM it was reported that Indian Adults watch television 14-16 hours a week whereas 26 percent children spend four hours of television per day. Television is a strong medium for promoting the products [14].

Designed form of communication or entertainment to educate the mass as well as to amuse. One very common and important tool applied in India, such communication approaches special instruction to its audience, with lessons by using amusement as one way of making it interesting and understandable to the mass. Television (TV), multimedia, radio, podcasts, games, films, music and websites are significant medium of these nutrition communication. One review study conducted on E-E approaches for nutrition promotion from 1956 to 2016 time period, reveals that the E-E models led nutrition knowledge among the target population, though it did not serve alone while it brings about behavioral change [15].

Recent analysis has been found in 2018 on young people having 95% access on smart phones rather than television or radio or newspaper. They prefer YouTube over any other means of medium [16] Some youth thinks reading print news comes into free activity [16] as it becomes difficult to go the valuable source directly and social media helps to communicate, they can express their views so it creates a virtual platform to them [17].

There is few research on media influence on dietary practices among young adults. So on this background the present research we have conducted to find out association between media influence and dietary practices and also to find out their current nutritional status of the respondents

## Methodology

This cross-sectional study was conducted among 101 younger adults, aged 20-25 years selected randomly from different social

media resources based on Kolkata, West Bengal India. The study was conducted during July 2021 to Jan 2022. Simple random sampling was used to select the respondent and further were screened according to the objective of the study. Present online survey was conducted on the basis of responses obtained from using pretested standardized questionnaire. The google form were prepared and shared with the respondents. Social media platforms were used like Facebook, WhatsApp, LinkedIn.

### Statistical analysis

The data were put in Microsoft excel worksheet (Microsoft, Redwoods, WA, USA) and checked for accuracy. Coding was done accordingly. Association between two attributes were calculated by Pearson's Chi-square test.  $P < 0.05$  was considered statistically significant. All statistical tests were conducted using Statistical Package for the Social Sciences software, version 20.0 (SPSS Inc., Chicago, IL, USA), by keeping BMI status level (undernutrition/normal/overweight or obese) as dependent variable.

### Results and Discussion

Mean age of the targeted population was years  $22.82 \pm 1.53$ . The mean BMI of the targeted respondent for male it was  $25.38 \pm 3.13$ , for female it was  $24.3 \pm 4.91$ . As per WHO reference as per Asians follows:  $< 18.5$ ,  $18.5-23$ ,  $23-27.5$ , and  $27.5$  for underweight, normal weight, overweight and obese respectively according to WHO 2021 Classification.

In present study overall 37.6% respondents were normal, whereas 63.37% were overweight or obese. In the present study 21% of respondents were smokers. Again surprisingly 29% percentage consumes alcohol among these 66% are obese or overweight. Even socio-economic scale, alcohol consumption and smoking habits are considered to be the risk factor for malnourishment as the association with many socio demographics scales and behavioral factors are linked with higher BMI, also observed in previous study [18]. In one study it was reviewed that the effect of marketing on young adults, especially digital marketing, has increased their intention to drink alcohol more. So, alcohol related marketing posing a detrimental effect on young people's drinking behavior [19].

| Parameters  | BMI         |                        |                                  | Total<br><i>n</i> (%) | Chi-square<br>test ( <i>P</i> ) | Odds<br>ratio |
|---|-------------|------------------------|----------------------------------|-----------------------|---------------------------------|---------------|
|   | Underweight | Normal<br><i>n</i> (%) | Overweight/Obese<br><i>n</i> (%) |                       |                                 |               |
| Do you see Advertisement on media?                |             |                        |                                  |                       |                                 |               |
| Yes   | 0           | 36 (37.8)              | 59 (62.1)                        | 95 (100)              | 1.59 (0.45)                     | 0.81          |
| No  | 0           | 2 (33.3)               | 4 (66.7)                         | 6 (100)               |                                 |               |
| Do you believe advertisement are truthful or not? |             |                        |                                  |                       |                                 |               |
| Yes   | 0           | 4 (30.7)               | 9 (69.2)                         | 13 (100)              | 2.49 (0.28)                     | 1.41          |
| No  | 0           | 34 (38.6)              | 54 (61.3)                        | 88 (100)              |                                 |               |
| .Do you have ready to eat meals?                  |             |                        |                                  |                       |                                 |               |
| Yes   | 0           | 28 (36.3)              | 49 (63.6)                        | 77 (100)              | 0.13 (0.85)                     | 1.25          |
| No  | 0           | 10 (41.6)              | 14 (58.3)                        | 24 (100)              |                                 |               |
| Do you consume processed foods?                   |             |                        |                                  |                       |                                 |               |
| Yes   | 0           | 33 (38.3)              | 53 (61.6)                        | 86 (100)              | 1.26 (0.86)                     | 0.89          |
| No  | 0           | 5 (35.7)               | 10 (66.7)                        | 15 (100)              |                                 |               |
| Do you prefer homemade or tetra pack juices?      |             |                        |                                  |                       |                                 |               |
| Homemade  | 0           | 28 (46.6)              | 40 (58.8)                        | 68 (100)              | 1.12 (0.56)                     | 1.61          |
| Tetra-pack  | 0           | 10 (30.3)              | 23 (69.6)                        | 33 (100)              |                                 |               |
| Do you consume weight loss foods?                 |             |                        |                                  |                       |                                 |               |

|   |   |           |            |          |             |      |
|---|---|-----------|------------|----------|-------------|------|
| Yes   | 0 | 5 (25)    | 15 (75)    | 20 (100) | 2.44 (0.29) | 2.06 |
| No  | 0 | 33 (40.7) | 48 (59.2)  | 81 (100) |             |      |
| Do you consume supplements?                             |   |           |            |          |             |      |
| Yes   | 0 | 6 (37.5)  | 10 (62.5)  | 16 (100) | 1.34 (0.51) | 1.00 |
| No  | 0 | 32 (37.6) | 53 (62.35) | 85 (100) |             |      |
| Do you indulge into junk foods after checking in media? |   |           |            |          |             |      |
| Yes   | 0 | 22 (40)   | 33 (60)    | 55 (100) | 0.42 (0.81) | 0.8  |
| No  | 0 | 16 (34.7) | 30 (65.2)  | 46 (100) |             |      |

**Table 1:** Distribution of younger adults according to nutritional status in relation to different question of media influence (N-101).

According to table 1, 94% of the respondents agreed that they see advertisement in the media, among them 62.1% were overweight or obese (odds ratio-0.81). As per the present observation 12% of the respondents believe advertisements are truthful, among them 69.2% were overweight or obese whereas 87.12% never believed advertisement are truthful, among them 61.3% were overweight or obese (odds ratio-1.41). Considering media preference 81.6% of respondents observed advertisements on Television /Internet based websites whereas 79.6% from television, 50% from newspaper 33.7% while reading magazines and 23.5% while watching movies and 15.3% while listening radio respectively.

Considering Ready to Eat Meal consumption 76.2% respondent gave positive feedback, among them 63.6% were obese or overweight (odds ratio-1.25). Again, while understanding eating consumption pattern of RTE foods, it is observed that 72.3% of the respondent choose Maggie, 53% choose noodles, 51% to cornflakes, 42% to soups, 37.3% instant oats, 10% precooked chicken, 10% muesli respectively. Considering the consumption frequency of above mentioned RTE (Ready to Eat Meal) foods is showing in figure 1.

In this survey it has also been observed that 85% of the respondents have consumed processed foods and 54.4% have junk foods after checking the advertisements in media and alarmingly among them 61% (those who consume processed foods) and 60% (those who consume junk foods) respondents suffer from overnutrition. In the case of consuming processed food 88.8% respondents consumed bread, 79.8% consumed cookies, 50.6% savory items, 42.7% in doughnuts and pastries, 13.5% in bacon/sausages and 5.6% on tinned vegetables respectively. It has seen 19% of the responses are inclined to weight loss products and 15% are on supplements according to the survey. In this case 33.3% choose Kellogg's K, more than 70% prefers slimming green Tea as weight loss products, 20.8% choose slimming shakes, 8.3% prefers slimming juices and 2% prefers not to answer respectively. Considering supplements 68.2% choose Vitamin tablets followed by fish oil capsules 40.9% whereas 30% prefer calcium tablets and 27% choose iron tables respectively. Though satisfactory result came as 67% respondents mentioned they prefer home-made juice than tetra pack juices. While considering tetra pack 56% choose Real fruit juices, 50% Tropicana followers by Frooti 46%, 26% chooses paper boat and minute Maid and 20% B-Natural respectively. In this regard they mentioned the reason behind choosing tetra packs were, above 60% mentioned because of the convenience, 24.5% due to nutritional claims presented in advertisements, 8% choose due to bright colours and rest 13% mentioned due to taste respectively.

From health point of view, 43.10% respondents getting influenced by elderly/relative, 41.2% by sports person, 32% by peers, 9% by celebrities followed by 1% relay professionals.

In the consumption pattern most of the respondents (Figure 2) gets influenced by their family members followed by sports persons

**Figure 1:** Consumption frequency of Ready to Eat Foods.

41.2% as this can be much previous research have claimed this happens because of lasting memory trace and of course with purchase behaviors and impacts [20].

**Figure 2:** Distribution of Health point of view consumption of the Respondent.

One report demonstrated by National Institute of Nutrition (NIN), revealed after examining 214 reports in six different newspapers that, one quarter of such reports were not based on authentic nutrition research, one-fifth had not mentioned the source and very few were opposed to the original research findings and [19].

Celebrities often endorse commercial foods and beverages so young people often tend to follow them as they get attracted to see the fit body of film actors/actress or sportsperson [21]. In many studies it has been claimed that media engagement may negatively impact the body image of young people so there comes the health professionals and Dietitians to come into the charge and helping them to demolish wrong information which they perceive from the virtual world [22]. In India the significant impact was observed when celebrities are promoting healthy eating habits as well as physical activities of teenagers [23]. It is reported that when commercial food and beverage products are endorsed by celebrities, the consumption rate increases manifolds among teenagers. Thus, even very brief exposure to advertising can alter healthy food preferences [23,24]. The accuracy of the information, which is communicated and the disclosure of the relevant sources, which are responsible for that given information influences how information is valued by intended audiences. Furthermore, information which is later exposed to be inaccurate and misused

public trust remains no underground evidence in the underlying field or sector [25]. Again, the hype which reaches unachievable expectations may erode public trust sometimes and public support; also it is observed that additional evidence is needed to established the linkages among hype, public trust, and public support [26]. It is observed that some nutrition communication disseminated through corporate marketing campaigns remains intentionally misleading, false or based on weaker research but such information remains effective in promoting the sale of food fads or nutritional supplements with no demonstrated successful efforts [27,28]. Any way, any nutrition communication or marketing receives popularity on how it communicated the information, how it was understood by the target population, and trusted. Easily understood (Evidence-based nutrition) contributes more in gaining trust by informing and empowering consumers in this case [28,29]. In nutrition communication and marketing lack of transparency is one big factor. Lack of transparency means lack of disclosure or using technical terms which are not easily understandable, limits the public's capacity to adopt such information, required during decision making [30]. Hence transparency or openness remains crucial for better nutrition communication and marketing and again application of EBN (Evidence based nutrition) becomes significant in this field [28,29].

Weight loss food consumption pattern has noticeable numbers as well as this are widely advertised on media nowadays because of the deceptive advertisements and exposure is more to females than males [31,32].

A good significant mass number is also admitting they are getting affected by the advertisements as it builds perceptions on mind of the consumers about a particular product and they make a relation between the two to buy the products [31,33].

## Conclusion

Media content, Advertisement strongly affects the dietary patterns of young people which leads to malnutrition primarily. Most of them get highly influenced by sports personalities followed by celebrities. This might be because they relate the sports celebrities more with fitness. But additionally, they are also consuming ready to eat food or outside foods under the influence of the advertisements. From a health point of view there is a huge confusion in processed foods, ready to eat foods and even



junk foods. Proper nutrition education to the mass is also another challenge, faced by Indian food market. To mark the growing challenges in protecting India from pseudoscience, practitioners, nutrition researchers and policy makers should work together to ensure efficiency and relevant collection of nutrition information. Not only that for making it more authentic the application of scientific procedures and implementation of the evidences of the same is also needed. Practitioners play an important role in translating the evidence base and personalizing it to individual patients, which should be acknowledged properly in EBN (Evidence based nutrition) research. Another important concern is to highlight nutrition information properly to the mass that with a growing evidence base, the conclusions which was communicated in the past may differ from those in the future. Such steps will help in improving the consistency and duration of the approach in developing the evidence base.

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### Conflict of Interest

The authors declare no conflicts of interest.

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