Health awareness in youth: An insight into eating disorders and sleep patterns

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Abstract---Studies of the long-term development of eating disorders are of great interest because the diagnosis of these disorders is not known for sure, and interventions have been limited in success in a significant proportion of these patients. Recently, there has been a significant increase in scientific research on various aspects of eating disorders.
disorders, including a surprising number of outcome studies. This work deals with anorexia nervosa and bulimia nervosa (types of eating disorders) separately. In the case of anorexia nervosa, it is also possible to specifically report on the course of the disease in younger patients. Given the large number of studies addressing these issues in anorexia nervosa rather than anorexia nervosa, by drawing some important conclusions at the end. As for sleep patterns, poor sleep quality is considered one of the most obvious public health problems, and the proportion of poor sleep quality is increasing in both developing and modern societies. Lack of sleep can have serious health consequences. In this article, we will look at how sleep patterns are disturbed, leading to some unhealthy conditions and functions in the body. It is associated with weakened immunity and unhealthy behavior and can cause psychological and metabolic problems such as diabetes, high blood pressure, metabolic syndrome, and obesity.

**Keywords**—sleep patterns, eating disorders, health, effects.

**Introduction**

Eating disorders are becoming more and more the focus of research, especially as they are prevalent in Western culture. For example, of the adolescent and young adult population in the United States, 0.3-0.9% are diagnosed with anorexia nervosa (AN), 0.5-5% are diagnosed with bulimia nervosa (BN), and 1.6-3.5% have been diagnosed with anorexia nervosa. Anorexia nervosa (AN) was diagnosed with binge eating disorder (BED), and about 4.8% were diagnosed with unspecified eating disorders (EDNOS). Despite the potentially serious health consequences of eating disorders, many in the public believe that eating problems are due to personal deficiencies. This creates a shame about why an individual develops an eating disorder (eg, “thin”) and the purpose of the disorder (eg, to gain control). Such taint can disgrace the actual experience of those who live with an eating disorder, as people may consider eating disorders to be self-harming. Similarly, people with unhealthy habits can be easily discouraged from seeking help.

**Anorexia Nervosa**

Anorexia nervosa is the medical term for an eating disorder. Anorexics restrict their calorie intake and the types of foods they consume. They eventually lose weight or are unable to maintain a healthy body weight for their height, age, stature, and physical condition. They may have a compulsive need to exercise and/or purge their diet through purposeful vomiting and/or the abuse of laxatives. Anorexics have a distorted self-image of their bodies and a strong dread of acquiring weight. Anorexia is a serious illness that requires medical attention. In persons with anorexia, extreme weight loss can lead to serious health concerns and even death.

Individuals of any age, sex, gender, race, ethnicity, or economic background can develop anorexia. Anorexia is most common in adolescent and young adult females, but it can also affect men and is becoming more common in children and
older individuals. An individual can't tell if someone has anorexia merely by looking at them since anorexia encompasses mental and behavioral aspects as well as physical ones. Anorexia does not require a person to be underweight. Anorexia can affect people of all shapes and sizes. Due to the cultural stigma associated with fat and obesity, they may be less likely to be diagnosed. An individual might also be underweighted without having anorexia. The fact about this disorder is that anorexia has psychological and behavioral aspects in addition to physical ones.

Anorexia, like many eating disorders, is a difficult illness to treat. As a result, the specific etiology of anorexia is unknown, but research suggests that it may be caused by a mix of genetic factors, psychological features, and environmental variables, particularly sociocultural influences. It is crucial to remember that there is no one-size-fits-all approach to eating disorders and anorexia. For many people, irregular eating patterns (also known as "disordered eating") are an ineffective coping method that eventually becomes permanent. Some people with anorexia, but not all, follow this path to disordered eating.

**Bulimia Nervosa**

Bulimia nervosa, or bulimia, is a type of eating disorder. It is characterized by consuming a great amount of food in a short period of time and then purging. Forced vomiting, strenuous activity, or the use of laxatives or diuretics can all cause purging. Bulimia is a dangerous illness that can lead to death. Bulimia patients may purge or exhibit purge behaviors, as well as engage in a binge-and-purge cycle. Other stringent techniques of weight maintenance, such as fasting, exercise, or excessive diets, might also be included in purge behaviors. Bulimia nervosa may also cause an obsession with achieving an unrealistic body size or shape. A person living with this eating disorder might be obsessed with their weight and can often be self-critical.

Bulimia is more likely in people who have a close relative who suffers from the disorder. The proportion risk attributed to genetics is estimated to be between 30 and 80 percent. Psychological stress, cultural pressure to achieve a certain body type, low self-esteem, and obesity are all risk factors for the condition. Fasting is encouraged in our society and having parents who are concerned about their weight are additional hazards. A person’s medical history is used to make a diagnosis. However, this is challenging because most people keep their binge eating and purging practices hidden. Furthermore, anorexia nervosa diagnosis takes precedence over bulimia. Bulimia nervosa can also result in a drive to acquire a physically unachievable size or shape. An eating disordered individual may be obsessed with their weight and excessively critical of themselves. Bulimia nervosa, unlike anorexia nervosa, can be difficult to identify since bulimics tend to be of average or slightly over average weight. Without reaching the complete diagnostic criteria for bulimia nervosa, many bulimics may engage in highly disturbed eating and exercise behaviors. Only when the conduct is not part of the symptom complex of anorexia nervosa and when it indicates an overemphasis on physical bulk or appearance can a diagnosis made. Purging is a typical symptom of bulimia nervosa in its more severe forms.
**Sleep Patterns**

Every individual of the environment requires a period of rest to enhance and empower its work ability. As per the expert panel report published in *Sleep Health*—The Journal of the National Sleep Foundation 2015, in younger adults (18-25): Sleep range is 7-9 hours. Short sleep duration and insomnia have both been highlighted as major public health problems (Barnes & Drake, 2015). Sleep deprivation is a prevalent affliction in modern civilizations. Inadequate sleep has been linked to a slew of physical and behavioral health issues, including reduced concentration and memory, mood problems, impaired motor abilities, and a decline in overall health and the body’s natural defense mechanisms. Sleep and wake issues caused by "everyday living activities that are inconsistent with the maintenance of quality sleep and normal daytime alertness" are described as inadequate falling asleep. Adolescents and children are particularly vulnerable to these issues.

Sleep amongst students attending colleges is frequently inconsistent in terms of duration and scheduling, with many students suffering from significant sleep deprivation. Short sleep duration has been linked to cognitive impairments in adults, such as increased reaction time and impaired cognitive throughput; motor vehicle accidents and early mortality; metabolic problems, such as obesity, type 2 diabetes, and cardiovascular disease; and psychiatric disorders. Inadequate sleep gives rise to sleep pattern disturbance. Sleep is multifaceted, and its value to health and performance isn’t solely determined by its daily duration. Sleep has a different composition based on the circadian phase and the time of day it happens. Light exposure affects circadian phase in humans; even room light modifies circadian phase significantly. Because the circadian clock takes time to acclimatize to schedule changes, people who regularly shift their sleep scheduling, and hence their pattern of light/dark exposure, may have misalignment between the circadian system and the sleep/wake cycle. This type of mismatch could have a negative impact on both cognitive performance and health. Researchers have looked at variance in measures related to nighttime sleep episodes, such as total nighttime sleep, midpoint of the nighttime sleep episode, nighttime sleep onset, and morning awakening time, linked variance in these measures to weight gain and poor academic performance. Because these individuals often have no identifiable nighttime sleep episode, many daytime sleep episodes, or nights with no sleep, variables based on the timing of nighttime sleep episodes may be difficult to generalize to individuals with extremely irregular sleep, polyphasic sleep, or rotating schedules (all-nighters).

**Review of Literature**

To accurately understand the prevalence of the issues of eating disorders and sleep patterns in society, attention needs to be given upon the previously concluded research work on the topic. Since the nature of these topics affect the normal functioning of society, plenty of research has been done by scholars and researchers in the field of eating disorders and sleep patterns. Some the works that were studies for the formulation of this report are as follows:

A case study that directly studied patients of Anorexia Nervosa, it provides an important perspective into the eating disorder that has seen a growth in occurrence, especially in the modern age of technology and easier access to communication with other individuals. The case study, which observed the patients aged between ‘the late teen years and early twenties’, argues that the patients diagnosed with Anorexia Nervosa “may exhibit ‘immature’ personality and may show neurotic or mentally disturbed traits before the development of the disease”. It further claims most of the instances of Anorexia Nervosa “usually occur to a young female”. It claims that the factors leading to a person developing Anorexia Nervosa may include “marital problems, divorce, seduction, death of near and dear ones, overwork, anxiety over sterility, fear about pregnancy and over concern about obesity”. This case study, published in 1967, is although vital in understanding the ‘real-world’, the gap in understanding the influence of modern phenomena like the effect of social media, better communication and various other emerging factors needs to be overcome with newer and presently accurate research.


A quantitative study that aimed to categorize sleep patterns and predictors of poor sleep quality among a large collection of young college students, conducted an online survey among 1125 (one thousand hundred twenty-five) students to analyze the effect of sleep and its disorders on youth and how it affected their position in society. According to the survey conducted by the research team, over 60% of the surveyed youth were categorized as ‘poor-quality sleepers’ by the PQSI (Pittsburgh Sleep Quality Index). Students with poor sleep quality reported more physical and psychological health issues than the other respondents. The students with poor sleep also expressed that their poor sleep negatively impacted their education and induced academic stress in them. The researchers advocate awareness and help among youth, who are affected by inadequate and poor sleep. The study of this research article contributed data and understanding, which was valuable for the formulation of this research project.

Objectives

- This research project aims to develop better insight into the issues of eating disorders and sleep patterns.
- To critically review the existing data and research on the topic of eating disorders and sleep patterns.
- To gain familiarity with the existing effects of these disorders in society and enhance the existing understanding of these issues.
- To understand the level of awareness among youth about factors of these issues that influence the functioning of society.
• To contribute for closing the research gap which exists in the areas of research regarding eating disorders and sleep patterns.

Methodology

The project undertaken by the group was done in the form of empirical research. To understand the issue of eating disorders and sleep patterns, a general hypothesis was formed based on currently existing research papers and projects. To include ‘real-world’ data and input, a general internet-based questionnaire was used among the targeted sample of youth. The general questionnaire has 10 different questions of objective type. Statistical analysis method was used to derive conclusions from noted responses.

• Sample size: 120
• Age group of the sample size: 18-30 years of age
• Area of sampling: The individuals who participated in the survey were classified into 5 different groups based on their ages. This was done in order to collect data without the influence of outer elements.

Data collection

To accurately understand the topic of eating disorders and sleep patterns in society, a direct data analysis was conducted in the form of a questionnaire. A simple and concise data gathering from youth was made possible by the following questionnaire:

Health awareness in youth- An insight into eating disorders and sleep patterns

A questionnaire designed to assess awareness among youth about eating disorders and sleep patterns.

1. Your age:
   o 18-20
   o 21-23
   o 24-26
   o 27-30

2. Are you aware about eating disorders like Anorexia Nervosa and Bulimia Nervosa?
   o Yes
   o No

3. Does your daily food intake meet the recommended calorific requirements? (see image for reference).
4. Do you agree with the following statement- "Individuals often face societal pressure and bullying regarding their bodies which leads them to follow unhealthy eating habits."
   - Strongly agree
   - Moderately agree
   - Neutral
   - Moderately disagree
   - Strongly disagree

5. Do you agree with the following statement- "Social media influences a person to develop a certain body image, often resulting in eating disorders."
   - Strongly agree
   - Moderately agree
   - Neutral
   - Moderately disagree
   - Strongly disagree

6. Are you aware about sleep disorders like Insomnia and Narcolepsy?
   - Yes
   - No

7. How does being a student/ employee affect your quality of sleep?
   - No effect on sleep quality
   - Positive effect on sleep quality
   - Negative effect on sleep quality

8. Individuals with high screen usage time are more prone to contracting sleep disorders like Insomnia. Select from the following options, your average screen time per day.
   - 0-2 hours of screen time
   - 3-6 hours of screen time
   - 7-10 hours of screen time
   - 11-15 hours of screen time
9. Adults are recommended 7-9 hours of uninterrupted sleep per day for optimal health and performance. How does your sleep schedule compare to the recommended sleep time?
   o I get less than 7 hours of sleep
   o I get the recommended amount of sleep
   o I get more than 9 hours of sleep

10. Do you agree with the following statement- "Raising awareness about eating disorders and sleep patterns is generally not prevalent in society and more work needs to be done for awareness in youth"?
   o Strongly agree
   o Moderately agree
   o Neutral
   o Moderately disagree
   o Strongly disagree

Data analysis

In order to understand the intended research topic from the view of the general public, a questionnaire designed to assess the level of awareness in youth about eating disorders and sleep patterns was distributed among members of the public. The amount of responses to the questionnaire were recorded with 120 responses. A sample size of 120 represents an accurate and concise understanding of the intended issue in society. The results of the questionnaire are denoted below:

- The ages of the 120 respondents ranged from 18 years old to 30 years old. 56 (46.7%) of the respondents belong to the 18-20 years of age group. 49 (40.8%) of the respondents belong to the 21-23 years of age group. Similarly, 10 (8.3%) represent the age group of 24-26, and 5 (4.2%) represent the ages 27-30. The objective of the questionnaire was aimed to acquire data from the age range of 18-30 to accurately understand the topic through the youth in society. The limiting of responses only from the youth enabled accurate data collection without outer influences being involved in the analysis for the research. A pie chart representing the age groups of the respondents is given below:
87 (72.5%) of the respondents claimed to be aware about eating disorders, particularly Anorexia Nervosa and Bulimia Nervosa. Similarly, 33 (27.5%) of the respondents claimed to be unaware about eating disorders being an issue in society. While this result assures that a larger amount of youth is aware about the issues in society regarding eating disorders, more awareness needs to be spread among youth about eating disorders, especially with these health issues getting more and more prevalent. A representation of the data is given below in the form of a pie chart:

In order to understand whether the youth in society are apprised of their bodies’ calorific needs, the respondents were asked whether their daily food diets fulfilled the recommended amount of calorific value that their bodies require to sustain a healthy lifestyle. An image with a chart of the recommended daily calorific against the parameters of the body of an average adult was presented to the respondents. The respondents were asked to assess their calorific intake in comparison with the chart of recommended calorific intake. A total of 118 responses were collected for this question. 80 (67.8%) of the respondents claimed that their food intake fulfilled the recommended amount of daily calorific values. 38 (32.2%) of the respondents claimed that their daily food intake did not meet recommended values of calorific intake. While more than two-thirds of the respondents’ calorific values meet the recommended daily values, a significant one in three respondents report that their daily diets did not match the recommended calorific values.
These numbers are worrying because the individuals whose calorific values do not meet the daily recommended requirements are more prone to contracting diseases and more likely to be indulged in eating disorders. The representation of the collected data is presented below in the form of a pie chart:

A person who is involved in society often faces criticism and judgement from other members of the society regarding their lifestyles, personal choices and standings, personal habits and especially body appearance. To assess whether the respondents of this questionnaire believed that these criticisms and judgements by people leads individuals to form a sense of dissatisfaction with their bodies, which causes them to adopt strange and unhealthy lifestyle choices which negatively affect their bodies and health. Among the 120 respondents of the questionnaire, 65 (54.2%) individuals expressed that they strongly agree that societal pressure and bullying leads people to adopt unhealthy eating practices to form a ‘socially accepted’ body figure. 48 (41.7%) of the respondents expressed that they moderately agree with the given statement. 6 (5%) of the respondents claimed a neutral stance at the given statement. While 1 (0.8%) respondent claims that they moderately disagree with the given statement, 0 (0%) of the respondents claim to strongly disagree with the given statement. The figurative description of the data is given below in the form of a pie chart:
The impact on individuals from social media and representation of people in the entertainment industry is widely understood. Exposure to these elements can develop a sense of dissatisfaction among individuals about their body image and their lifestyle choices. This can make them adopt unhealthy eating practices and create an unnatural expectation of themselves to ‘fit in’ with the other members of society. The respondents of this questionnaire were asked whether they believed that individuals often fall into the ‘trap’ of unrealistic body goals and develop eating disorders. 120 responses were collected for this question. 65 (54.2%) of the respondents strongly agree that social influences individuals to develop unhealthy expectation of body image, resulting in developing eating disorders. 48 (40%) of the respondents moderately agree with the given statement. 6 (5%) of the respondents chose to take a neutral stance for the given statement. While 1 (0.8%) respondent expresses moderate disagreement with the given statement, 0 (0%) respondents expressed strong disagreement with the given statement. The graphical representation of the data is given below in the form of a pie chart:

In an attempt to understand the awareness among youth about sleep patterns and sleep disorders like Insomnia and Narcolepsy, a question was raised in the questionnaire which was aimed to assess whether the respondents were aware about these sleep disorders. 120 responses were collected for this question. While 95 (79.2%) of the respondents claim that they were aware about these sleep disorders, 25 (20%) of the respondents were not aware about these sleep disorders. While the number of respondents aware about these issues are assuring, more awareness work needs to be done to educate more individuals about these issues that persist in society. The graphical representation of the data is given below in the form of a pie chart:
In order to understand the impact on sleep from daily activities and duties such as education and employment, a question designed to assess the same was asked to the respondents of the questionnaire. 120 responses were collected for this question. 19 (15.8%) of the respondents claim that their education or employment does not affect their quality of sleep. While 3 (2.5%) of the respondents claim that their daily schedule of education or employment positively affects their quality of sleep, 98 (81.7%) of the respondents claim that being a student or employee negatively affects their sleep quality. A relatively large group of individuals experience negative affect on their sleep quality. This shows how the responsibility of an individual influences their personal lives so much so that their responsibility ‘eats into’ their personal well-being. These individuals who experience a negative impact on their sleep patterns are more prone to sleep disorders and general dissatisfaction in their lives. The data representing the collected inputs are given below in the form of a pie chart:

The impact of modernisation and technical development, especially in regards to hand held devices and screens has influenced change in society and how individuals live and interact with the other members of society. Screen time usage has been going up exponentially during this decade. The most noticeable effect of technology, especially screen usage time is presented among youth, most of whom spend large amounts of time with their hand-held devices and screens. The recent
occurrence of the pandemic and lockdown further increased the aggregate screen time for individuals because all modes of interaction - education, employment and business moved to socially-quarantined methods. A question was raised to the respondents to quantify their usage of screen time. 120 responses were collected for this question. 1 (0.8%) of the respondents reported that their average screen time usage was between 0-2 hours per day. 28 (23.3%) of the respondents reported that their average screen time usage was between 3-6 hours. 43 (35.8%) claimed that their average daily screen time was between 7-10 hours. 4 (3.3%) claimed that they had an average screen time of more than 16 hours. The representation of the collected data is presented below in the form of a pie chart:

It is recommended for adults to maintain sleep patterns of at least 7 to 9 hours of sleep per day. A strict and uninterrupted sleep cycle of regular sleep is required by the body of and adult to be in optimal operating conditions and maintain good health. This questionnaire aims to understand the condition and quality of sleep that the respondents experience. The respondents were asked about their average amount of sleep they get daily. 62 (51.7%) of the respondents reported that they get the recommended amount of 7-9 hours of sleep per day. While 9 (7.5%) of the respondents claimed that they get more than 9 hours of sleep, 49 (40.8%) of the respondents claim that they get less than 7 hours of sleep per day. A very large number of individuals do not get the recommended amount of sleep per day, which can negatively affect their health, wellbeing and general satisfaction in daily activities. The collected data is presented below in the form of a pie chart:
To understand the general perception of eating disorders and sleep patterns among youth in society, a question was raised to the respondents about their view of general awareness in society about these issues. The respondents were asked whether they agree with the statement "Raising awareness about eating disorders and sleep patterns is generally not prevalent in society and more work needs to be done for awareness in youth". 41 (34.2%) of the respondents strongly agree that more awareness needs to be spread in regards to eating disorders and sleep patterns in society. 30 (25%) of the respondents moderately agree that more awareness should be spread about these issues. 6 (5%) of the respondents claim a neutral stance for the statement. While 22 (18.3%) of the respondents moderately disagree with the given statement, 21 (17.5%) strongly disagree with the statement that more awareness needs to be spread about eating disorders and sleep patterns. The data from the questionnaire is presented below in the form of a pie chart:
Conclusion

Through the understanding of the topic with the use of hypothesis, review of literature and data collection, this research paper concludes that the issues of eating disorders and sleep patterns are important aspects of society which need to be widely understood and studied. The existence of these factors in society affects and influences the functioning of society in general, and therefore, more awareness and cognition should be instilled among people, especially the youth, who are the functioning foundations of society in the present and the future. The utilization of direct data collection from the youth has presented itself as an accurate and vital part of this research project in order to understand the awareness among youth about these social issues and existing areas of human interest. This research project will be valuable to the current understanding of the topic in general, and be crucial in future research aimed at these issues.

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