EPH - International Journal Of Medical And Health Science
ISSN (Online): 2456-6063
Volume 09 Issue 02 June 2023
DOI:10.53555/eijmhs.v9i2.156

THE STUDY ON THE IMPACT OF PHYSICAL EXERCISE AND LIFESTYLE ON THE MENTAL HEALTH OF PSYCHIATRIC PATIENTS AT THE NATIONAL INSTITUTE OF MENTAL HEALTH HOSPITAL.

Shameem H[1*], Uh Tanny[2], Ac Apou[3], B Hossain[4]

*[1]*Research Assistant, NFE, DIU Nutrition and Food Engineering, Faculty of Allied Health Sciences, Daffodil International University, Email: shameemnfe@gmail.com*
[2]Dean, FAHS, DIU, Nutrition and Food Engineering, Faculty of Allied Health Sciences, Daffodil International University Email: drbellal@daffodilvarsity.edu.bd
[3.4.]Nutrition and Food Engineering, Faculty of Allied Health Sciences, Daffodil International University

Corresponding Author:
shameemnfe@gmail.com

Abstract

In this study was to investigate the relationship between psychological aspects of physical activity, dietary habits, nutritional diversity, personality disorders, smoking habits, and sleep issues among psychiatric patients at the National Institute of Mental Health (NIMH) in Dhaka City, Bangladesh. A questionnaire was utilized to collect data from 140 psychiatric patients, consisting of 57 males and 83 females. The questionnaire included demographic information on age, gender, religion, educational background, family income level, husband/wife occupation, smoking habits, physical activity patterns, and socioeconomic status. The study found that 34% of the respondents had the highest intake of carbohydrates, while 21.4% consumed more protein and 38.6% of respondents consumed the highest amount of green vegetables as vitamins daily. Additionally, it was observed that about 45% of the participants engaged in physical activity, with walking being the primary form of activity. Of these respondents, 33.4% engaged in physical activity for less than 30 minutes, while 48.3% and 18.3% engaged in activity for 30-60 minutes and 1-3 hours, respectively. The study also revealed that 86 respondents had sleeping difficulties, while 54 respondents did not. Furthermore, 54% of the respondents attempted suicide, with the majority being students. The findings suggest that adequate sleep is not only beneficial for physical fitness but also mental health. The study also revealed that most respondents had insufficient knowledge about nutrition, particularly those who were illiterate. Overall in this study provides insight into the lifestyle factors affecting mental health among psychiatric patients in Bangladesh. The results suggest that physical activity, dietary habits, and sleep issues are linked to mental health outcomes and should be considered in the development of interventions and programs aimed at improving mental health outcomes in this population.

Keywords: *Physical activity, Dietary habits, sleeping issue, Mental health, Socioeconomic, Analysis data for Mental health*

INTRODUCTION

The mental health of people of all ages is a serious public health concern, and population studies indicate that the prevalence of poor mental health in children and adolescents is increasing [1]. The intention of this survey is to assess the prevalence of psychiatric disorder and to identify the factors associated with mental disorder among patients attending in the national institute of mental health hospital Dhaka. In this study, with a pair of questionnaire, to understand the food desire, physical activity level, lifestyles among the NIMH patients. Mental disorders represent major public health problem with higher burden in middle-income countries [2] [3]. Mental health is related to cognitional, behavioral, and sentimental well-being [4] [5]. Mainly it's all about how people think, feel, and behave [6] [7]. Mental health is very important to every single person at every stage of life, from childhood, adolescence youth and old age [8]. Mental and physical health is equally important components of overall health [9].

In this study that the asked some general questions to identify mentally ill patients about their regular food intake habit, their water intakes, physical exercise (types and time), and sleeping disorders type's problems [10] [11]. After that convert it into the analysis and find out the frequency as if it can be summarized. A complex set of factors, including biological and genetic, demographic, and changeable lifestyle factors, influence children's mental health, making it difficult to understand and manage the condition [12] [13].

In general, the stress, depression can affect eating habit such as sometimes people feel stressed, can lose their hunger [14]. Children and adolescents with lower mental health are linked to diets heavy in saturated fat, refined crabs, and processed foods, while adults with higher intakes of fruits and vegetables report feeling better overall [15]. 16 and longitudinal data show that adults who increased their diet of fruits and vegetables also reported a concurrent rise in wellbeing, which supports this [16] [17]. The neurotransmitter serotonin helps regulate our sleep, appetite, and mood [18]. The digestive system contains millions of nerve cells that produce and release serotonin [19]. So, the digestive system not only digests food but also keeps us mentally well [20]. And, in this study found that people who had a diet high in vegetables, fruits, nuts, grains, fish, foods rich in unsaturated fatty acids and fish oil supplements (the control group) had a reduction in depression. Also, early age (birth to eight years of age) diets low in nutrients, high in saturated fatty acids, refined carbohydrates, and processed foods are associated with poorer mental health during childhood and adolescence [21]. Malnutrition and over nutrition both are cause physical problems [22].

There are many reasons behind obesity, obesity can also be caused by uneven eating habits. There is a complex relationship between obesity and mental health [23]. It was observed that 47.9% of the respondents have not any intoxicating habits and 52.1% of the respondents have intoxicating habits. About 60% of the respondents used to smoke cigarettes, another 9.2 % of the respondents had taken jorda and gull and the rest 30.8% of the respondents had taken tea/coffee. Good health is not just about our diet. Sleep is a fundamental operating state of the central nervous system, occupying as much as a third of the human existence span [24].

During the many sleep phases that make up the sleep cycle, brain activity changes, rising and falling. There are brief spurts of energy during NREM (non-rapid eye movement) sleep, but general brain activity slows down [25]. Because of the sudden increase in brain activity during REM sleep, this stage is linked to dreaming that is more vivid. Each phase affects the health of the brain by allowing the activity of various areas of the brain to increase or decrease [26]. Sufficient sleep is also very important to keep the body healthy and fit. Sufficient sleep is vital for our health. An adult person needs a minimum of 8 hours of sleep unique the day to keeps the brain functioning. And if there's much less than 6 hours of sleep for a protracted time, then the brains overall performance steadily decreases [27]. This information was recently published in a study in the Annals of Behavioral Medicine Where it is said that people need at least 8 hours of sleep throughout the day. If a person sleeps for less than 8 days and 6 hours continuously, it affects the physical as well as the mental health [25]. Not only diet and sleep but also physical fitness is so important for our mental health. Studies have shown that people who regularly walk, run, or go to the gym, endorphins, end cannabinoids, serotonin, and dopamine are released from their brains [28]. And these substances are associated with our feelings of happiness, laughter or being happy. The increase of these substances in the body keeps our mind calm, reduces anger, depression. Suicide has become a long-term social problem in Bangladesh. Suicide on social media live has recently become a trending topic. In a gender-based review, the prevalence is higher in women than in men [29].

Overall, in this study it is observed that 81 people are attempting suicide midst 140 respondents and most of them are students. This report is essentially an assessment on the mentally ill patients who have attended in NIMH hospital for counseling, treatment, and check-up.

Methods & Objectives

General Objective

Objective of this cross sectional study is to determine Eating habit, daily physical activity, sleeping disturbance, personality disorder and other lifestyles among mentally ill patients.

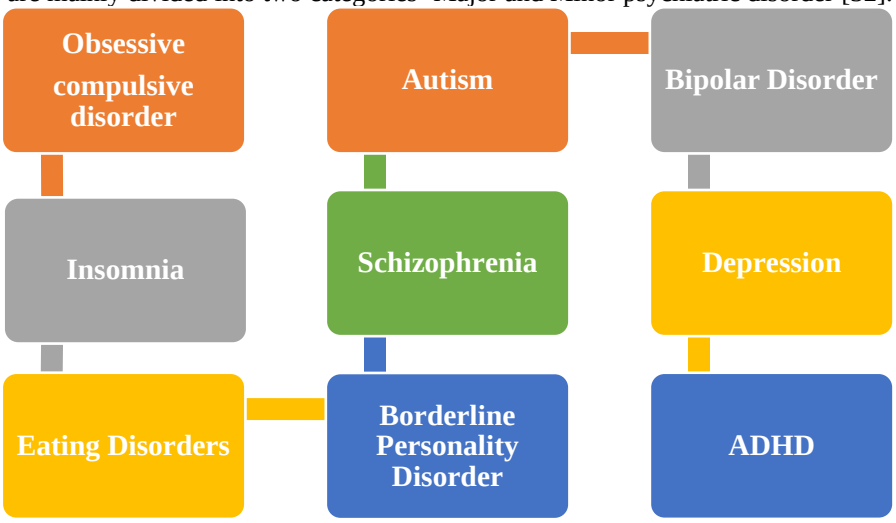
Specific Objective

i) To Explore and understand the regular dietary intake, (CHO, Protein, Fat, Vitamin, mineral Antioxidant) of NIMH patients.

ii) To determine and explore Regular Physical Exercise (types of PE and time of PE) of NIMH patients.
iii) To identify Sleeping problem, intoxication habit and identify their Recreational source of NIMH patients
iv) To determine daily liquid intake of NIMH patients
v) To identify the issue with personality disorder problem (suspicion, broken habit, abnormal behavior) of NIMH patients

Mental disorder
In English, mental illness or mental problem is called mental disorder. It is a mental and practical change, different from norms, society, culture, or normal life. In the language of science, disruption of the normal development and functioning of the brain because of a complex interaction of genetics and personal experience is called mental illness or mental disorder [30] [31].

Types of mental health disorder
Mental disorders are mainly divided into two categories- Major and Minor psychiatric disorder [32]. They are-



Significance of the report
This report might certainly be beneficial for the students and researchers working in this sector. As this report offers case study orientated knowledge, the authenticity of the paper is notably maintained. Therefore, someone working in this field will find the information necessary. The report would be of unfailing value to students of nutrition and food, Health and Allied Science, and mental health and nutrition related students who are especially interested in this sector.

Methods of Data collection
In this study a face-to-face interview and a pre-tested questionnaire were used to collect the data from patients. It was an open-ended interview questionnaire that was used as a survey method. The questionnaire's structure was based on socioeconomic factors such as education level, occupation, family income, husband's occupation, intoxication habit, physical activity, number of meals, food supplementation, and food security etc.

Data analysis
For –in-depth interview data was audio recorded, video and some pictures were captured for this study. Data were entered and adjusted by using the latest version of software statistical package for social science (SPSS) version-26 and edited for consistency after collection. The information was shown using tables, bar charts, pie chart, and graphs.

Flowchart on analysis

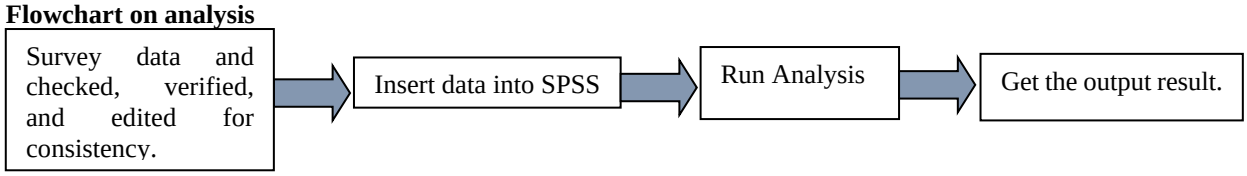


Figure 1: Flow Diagram for the **a**nalysis of Data.

RESULTS
The study was conducted on 140 participants out of which 57 were male and 83 were female in NIMH hospital, Dhaka.

Socio-economic and demographic history of psychiatric patients
Demographic records confess to a good understand explicit background information about participant age, years, gender, marital status, etc. Out of a total 57 participants were male and 83 were female. Most of the respondents were housewife. In the study, interviewee's majority were aged in between 15 to 35 years. Majority of the time, the respondent's partners were the only earning member of their family and the majority income ranges were in between **10,000 and 20,000 Tk**.

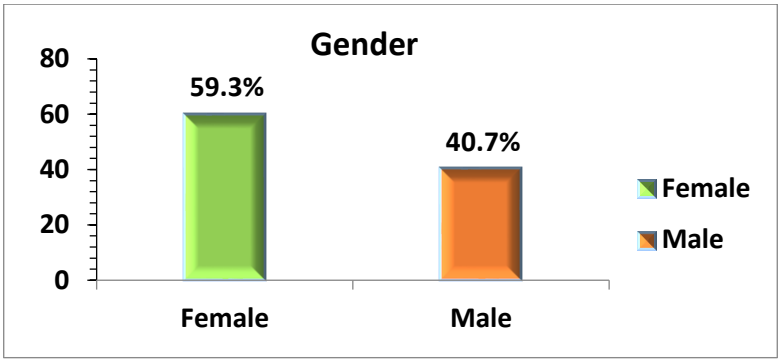


Figure-2: Percent distribution of the respondents by Sex

The distribution of sex in NIMH psychiatric patients is shown in the figure 1. Among the respondents, the number of female respondents was much higher than that of male respondents. This study shows that, in the NIMH hospital majority, 59.3% of the respondents were female and 40.7% of the respondents were male, respectively.

Variable	Category	Frequency	Percent (%)
Age	<20	38	27.14
	20-30	43	30.72
	30-40	27	19.28
	40-50	24	17.14
	> 50	8	5.72
Family Member	<5	90	64.28
	5-7	42	30
	>7	8	5.72
Family Member	<5	90	64.28
	5-7	42	30
	>7	8	5.72
Family income per month	<10000	20	14.28
	10000-20000	79	56.44
	20000-30000	32	22.86
	30000-40000	5	3.57
	>40000	4	2.85
Smoking	0	54	60.67
Jorda, Gull, Betel Leaf	0	18	20.23
Others	0	17	19.10
Recreation	TV	7.14	0
	Social Media	55.71	0
	Cook	3.58	0
	Travel	6.42	0
	Read Book	2.86	0
	Song	7.85	0
	Others	16.44	0
Protein	Beans	0	4.28
	Milk	0	8.75
	Yogurt	0	2.85
	Meat	0	14.28
	pulse and Fish	0	57.14
	Egg	0	12.85
Vitamin	Green leafy vegetable	0	71.42
	Fresh and seasonal fruit (Amloki, water melon, guava, jackfruit, mango, litchi)	0	27.14
	Others	0	1.44
Recovery	1-3 yr	6	25.01
	3-5 yr	10	41.66
	5- above	8	33.33

Table-1: Analysis of the Data distribution respondent by Age, Family members, Family income, Intoxication Habit, Recreational Source, Recovery Time, protein Intake, Vitamin Intake.

In this table 1 shows that according to the data, 27.14% of the respondents were age group under 20 years. On the other hand, 30.72 %, 19.28%, of the responders were between the age group of 20-30 years and 30-40 years. In this figure also indicates that 17.14 % and 5.72 % of the respondents were between the age group of 40-50 years and >50 years respectively. Here is 64.28% of the families had less than 5 members; 30% of the families had 5 to 7 members; and 5.72% of the families had more than 7 members. The majority of the respondents' family members were in between 2-3 members.

And the majority of the respondents (56.44) had a monthly family income of 10000-20000 BDT.On the other hand14.28% of the participants had a family income of less than 10000 BDT, while 22.86 % and 3.57 % of the respondent had a monthly family income of 20000-30000 BDT and 30000-40000 BDT respectively. And 2.86 % of the respondents had monthly family income >40,000 BDT.So it is proven that most of the participants were middle class family.

This table demonstrates that the majority of respondents were chain smoker. They were not aware of the harmful effect of smoking. They had different types of intoxication habits. Majority 60.67 % of the respondents had a smoking habit.20.23% of the respondents had history of betel leaf, jorda, gull. Then19.10% of the participants had other histories of intoxication habits. Among the respondents, majority of respondents using social media as their recreation. Majority 55.71% of the respondents are using social media. On the other hand, 7.14 % and 3.58 % of the respondents watch TV and chose cooking as their recreation.6.42%, 2.86%, and 7.85% of the respondents choose traveling, read book and song as their recreational sources. 16.44% of the participants selected others types of recreation.

Amino acids included in foods high in protein aid in the production of important neurotransmitters that are used to both prevent and treat sadness and anxiety. The majority of NIMH patients ate fish and pulses as protein.57.14% of the residents eat fish and pulse as protein. 12.85% of the respondents eat egg as their protein source. Then as a source of protein, 14.28% and 2.85% of the respondents, respectively, consumed meat, yogurt as protein source.4.28% of the respondents consume beans as protein source. Vitamins are very essential for human beings. Eat lots of fruits and vegetables, as well as things high in omega-3 fatty acids, to improve mental wellness. In table 8, Most of the participants consumed green leafy vegetables as their primary source of vitamins. Particularly protective of the brain are dark green leafy veggies. The best meals for the brain include nuts, seeds, and legumes like beans and lentils. 71.42% of participants consumed green leafy vegetables, and 27.14% of the participants consumed fruits as vitamin intake.1.44%of the participants choose others.
Overall, the 140 respondents were recovered from their psychiatric problems respectively. 50.0% and 25.1% of the respondents were recovered within 1–3 years. 41.66% of the respondents were getting well within 3–5 years, and 33.33% of the respondents were getting well above 5 years of treatment.

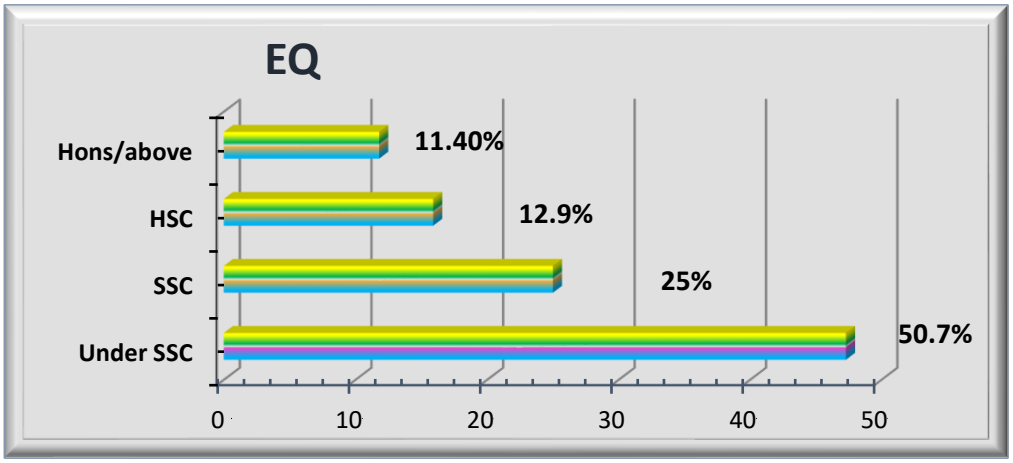


Figure-3: Percent Distribution of the respondents by EQ (Educational Qualifications).

The majority of the respondents were illiterate. They don't have enough knowledge about physical and mental health. Figure 2 shows that, 50.7 % and 25 % of the interviewees had education levels below the SSC and SSC. 12.9% of them were under the HSC level. On the other hand, we discovered that 11.42% of the respondents had completed their undergraduate and graduate degrees.

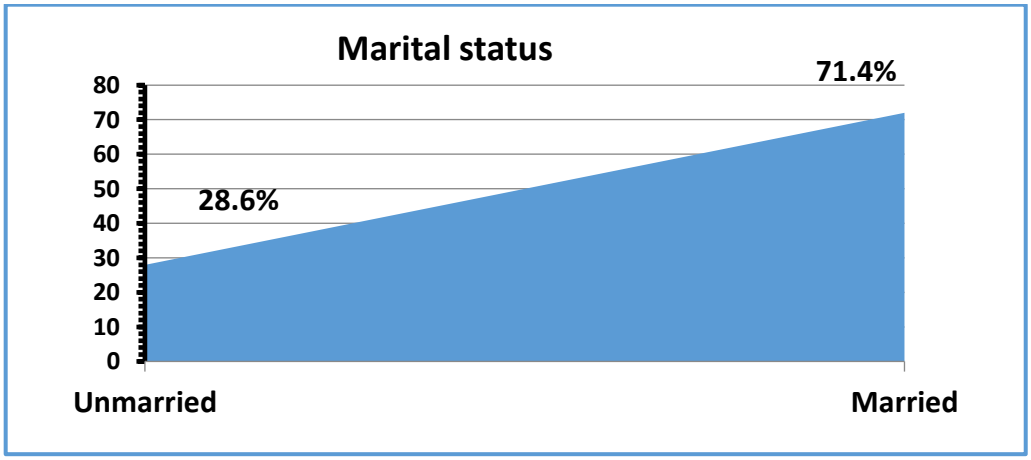


Figure-4: Distribution of the respondents by marital status (140)

Distribution of Marital status is shown in figure 3**.** Considering the goal of the study, the majority of the respondents were married, and a small percentage was unmarried. Figure 3 data shows that the highest number of the respondents was married. It is shown that, 71.4 % of the respondents were married and 28.6% of the respondents were unmarried.

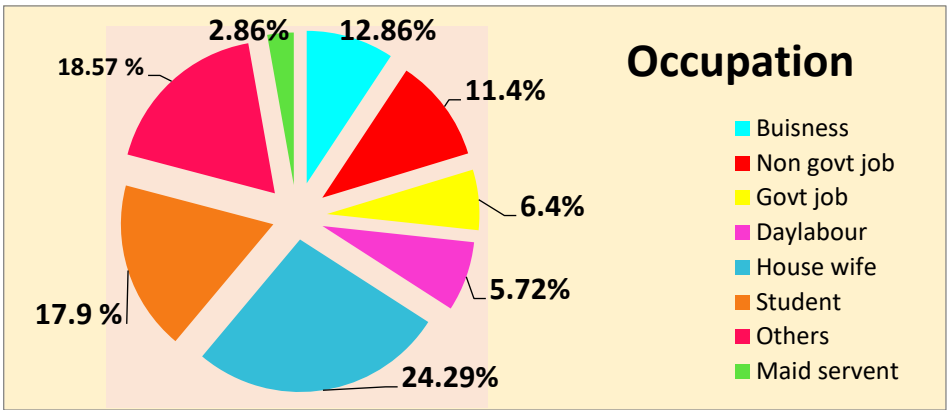


Figure-5: Percent Distribution of the respondents by Occupation (140)

The occupations of the respondents are shown in figure 4. This figure found that the occupations of the respondents were day labor, non-government jobs, government jobs, business, housewife, students, maid servants and others. 17.9% of the respondents were identified as students. This study also reveals that 12.86% and 11.4% of the respondents' occupations were business and non-government job.6.4%of the respondents' occupations were govt. job and 5.72% of the respondents were day labor. On the other hand, majority 24.29% of the respondents were housewives. This figure indicates that, 2.86% of the respondents were maid servant and 18.57% were others occupation.

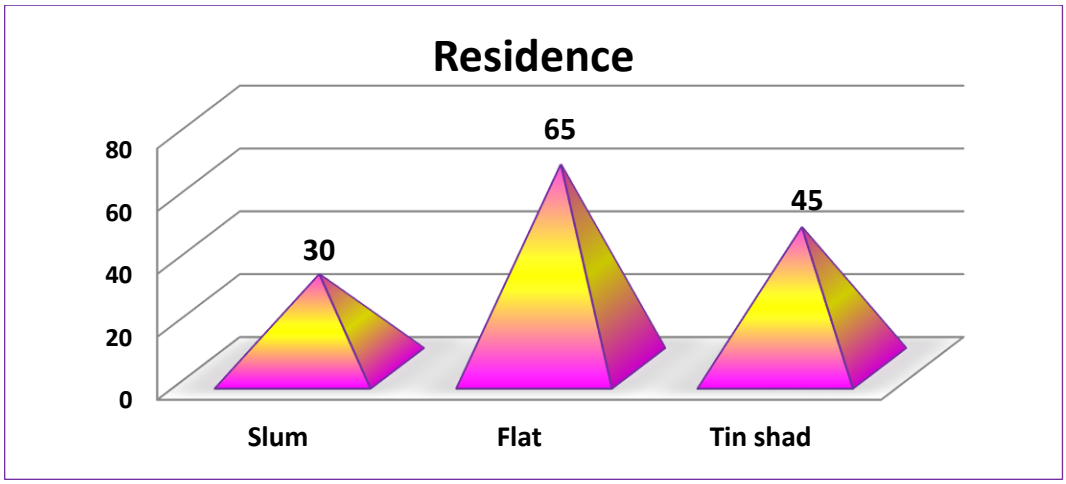


Figure-6: Distribution of the respondents by Residence (140)

In this figure indicates that the 3 types of residences were found in this study (slum, tin shaded and flat). The highest number of respondents lived in flat and the lowest number of respondents lived in the slum. Total respondents were 140, in which 65 respondents were lived in the flat, and 30 respondents were lived in the slum and 45 peoples lived in tinned shaded houses.

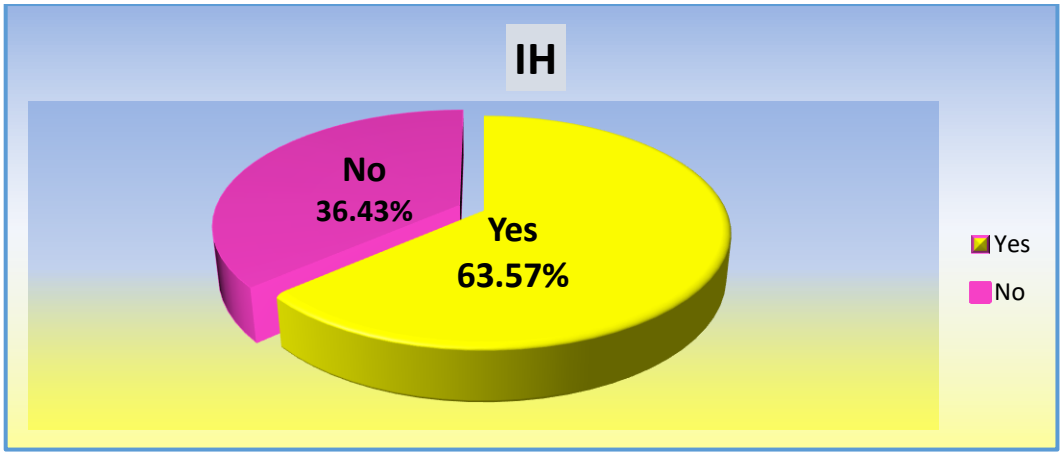


Figure-7: Distribution of the respondents by IH

The data shown that, the greatest number of participants had Intoxication habit (IH) which is very harmful for psychiatric patients. When a person addicted with intoxication habits his/her mental and behavioral abnormalities are found. This pie chart shows that, majority of the respondents had history of intoxication habit .63.57 %, of the respondents had history of intoxication habit. On the other hand, 36.43 %, of the respondents had no history of intoxication habit of NIMH patients.

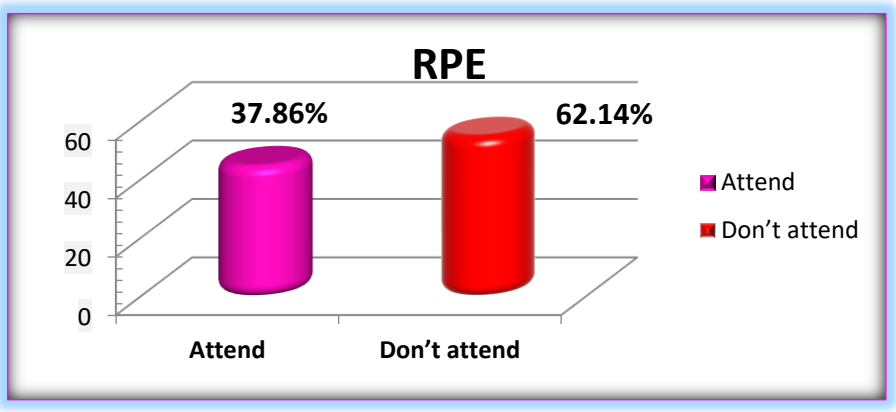


Figure-8: Distribution of the respondents by RPE.

The result shows the physical exercise habit among the NIMH psychiatric patients. Most of the NIMH patients are not attentive to their physical health. The largest number of participants had not or don't attend regular physical exercise (RPE). Majority, 62.14% of the respondents did not participate in physical exercise. On the other hand, 37.86% of the respondents engaged in physical exercise.

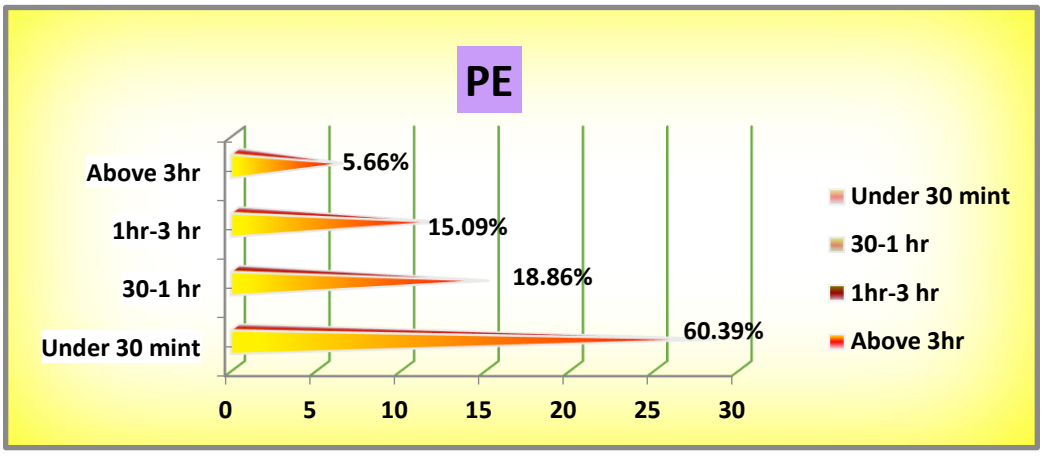


Figure-9: Distribution of the respondents by time of PE.

In this figure, it is evident that most of the respondents had not engaged in physical exercise (PE) regularly. However, some respondents did physical exercise for different durations. 60.39% of the participants were doing physical exercise for under 30 minutes. 18.86% and 15.09% of the respondents were doing physical exercise for 30 minutes to 1 hour and 1 hour to 3 hours, respectively. Only 5.66% of the respondents reported doing physical exercise for over 3 hours.

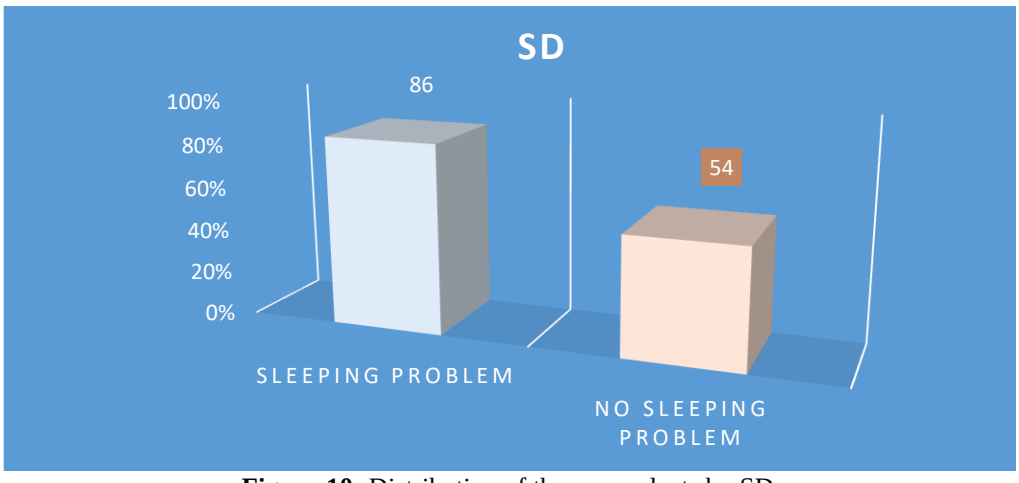


Figure-10: Distribution of the respondents by SD.

The result show about that the more than half of the respondents had sleeping difficulties (SD). Sleeping difficulties are a big problem for psychiatric patients. Mental health and sleeping difficulties are closely related. Poor sleep can have a detrimental effect on your mental health, and living with a mental health issue can affect how well you sleep. The largest number of respondents suffered from sleeping disorders. This figure showed that the majority of the 86 participants had sleeping problems. On the other hand, 54 respondents had fewer sleeping difficulties

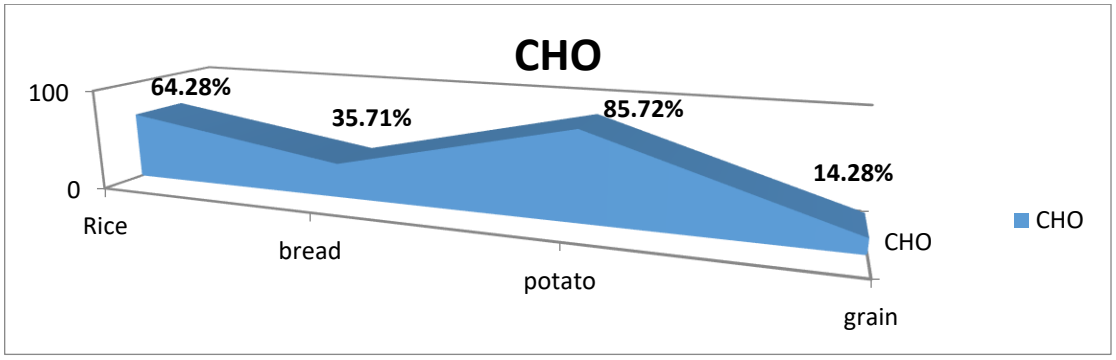


Figure-11: Distribution of the respondents by CHO

Here is depicts the CHO intake of the NIMH's mental patients. The majority of NIMH patients consumed rice as their CHO consumption. Majority 64.28% of the respondents eaten rice as CHO intake.35.71% of the respondents eaten bread as their CHO. On the other hand, 85.72%of the respondents eaten potato as CHO and 14.28% of them had eaten grain.

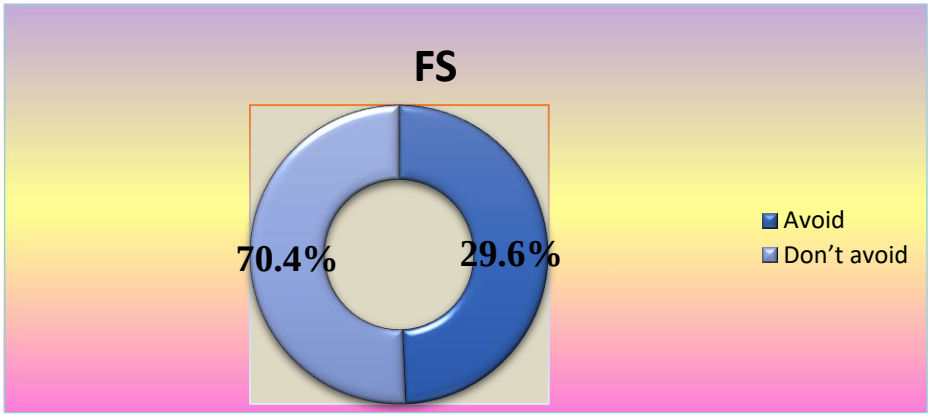


Figure-12: Distribution of the respondents by FS

In this indicates that, majority 70.4% of the respondents had taken food supplement (FS) and 29.6 % of the respondents had not taken food supplement. Food supplement is very important for psychiatric patients. Brain chemicals that impact mood and other cognitive processes are produced in part by vitamin B-12 and other B vitamins. Depression has been linked to low levels of foliate, vitamin B-6, and other B vitamins such vitamin B-12.

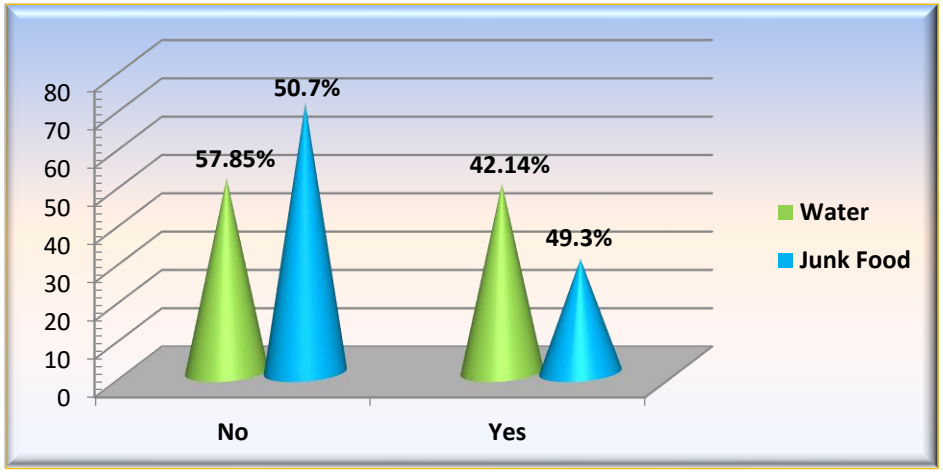


Figure-13: Distribution of the respondents by water and junk food Habit

Percent distribution of water intake and junk food eaten habit are shown in figure 12. Survey data shows that 49.3% of the respondent drink water 2-3-liter par day. On the other hand, 50.7% of the respondent drink water under 2-3 liters per

day. This graph also shown that 57.85% of the respondent had regular eaten junk food habit and 42.14 % of them had little intake junk food habit.

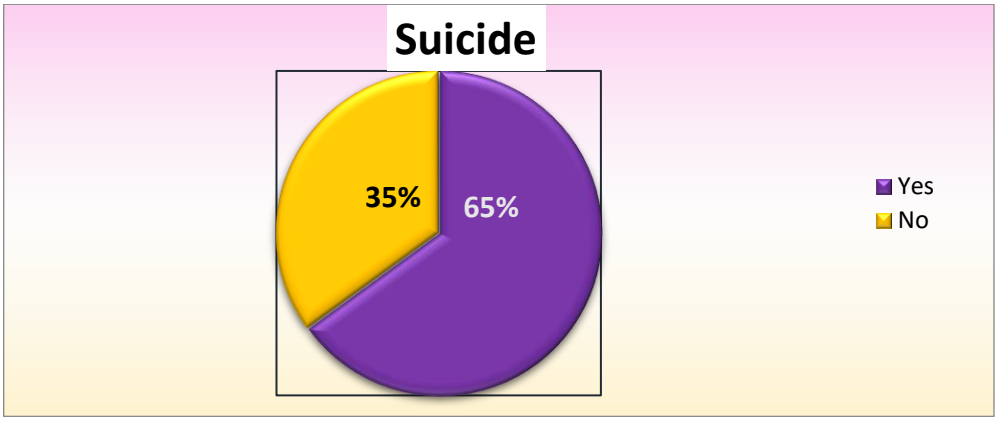


Figure-14: Distribution of the respondents by Suicide History

The majority of suicides globally are caused by mental health issues, particularly depression. This pie chart shows that majority of the respondents had suicidal intentions. The bulk of them had a history of suicide attempts. 35% of respondents had no suicidal tendency, while 65% of respondents reported having suicide tendency. Although depression is highly associated with both suicidal ideation and attempt, it lacks specificity as a predictor, and little is known about the factors that make depression more likely to result in suicide.

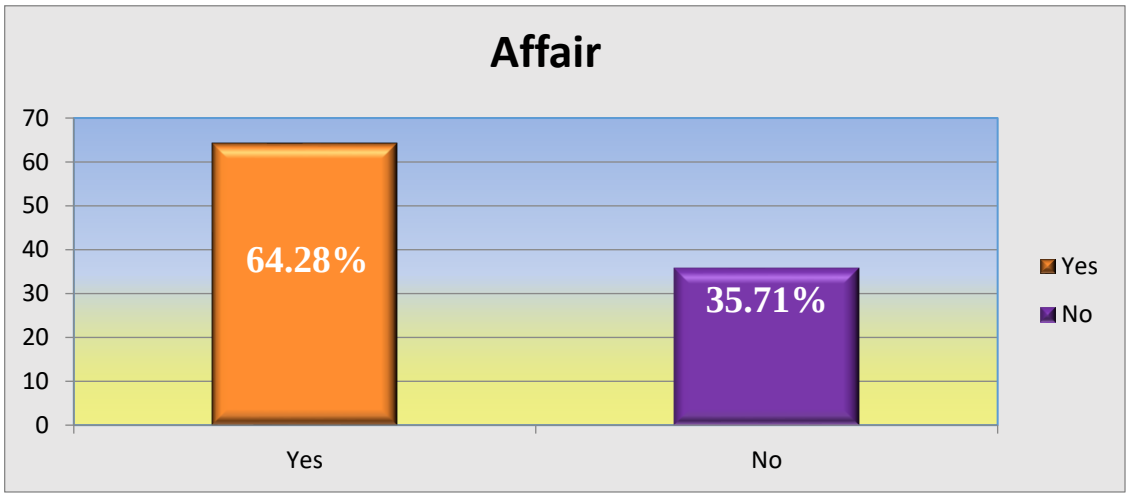


Figure 15: Distribution of the respondents by Extramarital Affair History

Here in indicates that, the majority of respondents had a history of love relationships, as seen in the table. Although it can be a huge comfort to people receiving treatment for a mental illness, a loving, healthy relationship can also protect against poor mental health. 35.71 Percent of the respondents had no history of extramarital affairs, whereas 64.28 percent of the participants had extramarital affairs.

Discussions

The intention of the survey was to learn more about the psychology of food selection, dietary pattern, dietary diversity, physical activity, among NIMH patients. An important component of this type of study is the development of a questionnaire, so one was created because it could achieve the study's goal.

Most people in Bangladesh are poor. They are unable to maintain healthy body functions because of their lack of access to nourishing meals. Most individuals in Bangladesh are below the poverty line. They do not receive adequate nourishment to maintain regular bodily functions because of their poverty. Due to inadequate nutritional understanding, poor diet, and other factors, anemia affects most illiterate people [33]. Due to inadequate nutrition knowledge, poor diet, and other factors, anemia is a common condition among the illiterate. The author's research revealed that mental illness includes eating disorders, addictions, schizophrenia, anxiety disorders, and sadness [34]. Most participants tended to drink more tea and coffee, which progressively turned into a habit. According to the research, there were 57 respondents were men and 83 were women among the total respondents. Moreover, 38 responders were under the age of 20. On the other hand, 43, or 27 respondents were between the ages of 20 and 40. This graph also shows that, respectively, 24 and 8 of the respondents were in the 40–50-year-old and over 50-year-old age brackets. There is a less than ideal side to every technology, as with anything Comparing males and females, it was shown that women consumed more vitamin B6 and B9 and had higher scores for depressed symptoms. Depressive symptoms and a reduction in vitamin B9 intake were also

linked to lower levels of education. Marital status, current smoking, past smoking, body mass index (BMI), and number of close friends had no effect on depressive symptoms or vitamin B intake. The usage of social media might result in poor sleep and damage to the mind. Low self-esteem, anxiety, and sadness are all linked to it. Teens who have mental illness or are at risk for it in particular may experience harmful effects from social media. The lifetime prevalence of any mental condition among teenagers is 55.71% of adolescents will experience severe mental disability throughout their lifetimes, according to the National Institute of Mental Health. the majority respondents select TV, mobile phone as their entertainment source.

Mental health and alcohol use are closely related. Mental health may be harmed if drink excessively. There is a direct correlation between alcohol use and mental illness. Alcohol is a depressant that alters the balance of neurotransmitters in your brain, which can have an impact on your moods, thoughts, and behavior. Regardless of your mood, the changes in the brain's chemistry can quickly cause additional unpleasant emotions, like anger, melancholy, or anxiety. In NIMH hospital, majority of participants are addicted to smoking habit. 61% of them were chain smoker.

Numerous psychiatric diseases have a strong link to tobacco smoking. Smokers are more likely than non-smokers to meet the criteria for mental health disorders currently in use [35] [36]. This pie chart demonstrates that the majority of respondents had a history of habitual drunkenness. 63.57% of the respondents have a history of intoxication regularly. On the other hand, 36.43% of the respondents said they had no prior knowledge about drinking habits. By hindering the synthesis of tetra hydro biopterin, vitamin B9 deficiency may worsen the symptoms of depression (BH4) [37]. The three aromatic amino acids (tryptophan, phenylalanine, and tyrosine) hydroxylase enzymes require BH4 as a necessary cofactor. Several neurotransmitters, including serotonin, are produced by the three aromatic amino acids [38].

Another important factor is physical exercise. Exercise enhances mental health by lowering anxiety, depression, and depressive symptoms as well as by boosting self-esteem mood is lifted by the release of neurotransmitters like serotonin and endorphins during exercise [39]. Regular exercise can help with mental health recovery by reducing stress and the symptoms of mental health problems including depression and anxiety. Exercise benefits both your physical and mental health. It relieves tension, stress, and mental fatigue and boost to energy. In this study it is shown that 37% of the respondents attend physical exercise regularly and 63% of the respondents don’t attend physical exercise [40].

There is a direct link between sleep and mental wellness. Your psychological well-being and mental health are impacted by lack of sleep [41]. During the many sleep phases that make up the sleep cycle, brain activity changes, rising and falling. Sleeping difficulties were reported by a substantial percentage of respondents. The majority of the 86 participants—as indicated by this statistic—had sleep issues [42]. 54 respondents, on the other hand, had less trouble sleeping. Regularly sleeping for less than seven hours has been associated with ill health. Mental health can be affected by diet in addition to how you feel physically [43]. Energy drink use as a breakfast alternative was linked to extremely poor mental well-being scores, even worse than for those students who skipped breakfast entirely. Incorporate these 5 nutrients into diet to improve mental stability and health-vitamins, Omega-3 Fatty Acid, Vitamin D, Antioxidants, Fibre [44]. Insufficient nutrition can result from consuming foods low in nutrients. Important nutrients for a positive mood [45].

In addition to nourishing your body and boosting happiness, fruits and vegetables are rich in vitamins, minerals, and antioxidants [46]. Inadequate micronutrient intake in modern diets may be a factor in irate speech. Although there is a higher occurrence of depression-related symptoms in teenagers who consume low-quality meals, this does not imply causation [47]. CHO intake is very important for individuals’ life. In this graph it is clear that most of the respondents consume rice ,potato as thesis carbohydrates intake .on the other hand protein is so important for a healthy brain .Protein increased levels of the brain chemicals dopamine and nor epinephrine, which affect your mood, motivation, and focus, have been related to protein consumption (found in foods including fish, meat, chicken, turkey, tofu, beans, eggs, and unsweetened yogurt).The highest person intake fish and meat at NIMH hospital.58% of them regular eaten fish and pulse as protein.15%add egg,13% add meat at their meal regularly. Gain energy from complex carobs like those found in starchy vegetables and brown grains. Compared to sugar and candy, which include simple carbohydrates, quinoa, millet, beets, and sweet potatoes have more nourishment and will keep you fuller for longer. Lean proteins provide body with the energy it needs to think clearly and act swiftly. Protein-rich foods include poultry, meat, fish, eggs, soybeans, almonds, and seeds [48].

Brain and nervous system need fatty acids to operate properly. Fish, meat, eggs, nuts, and flaxseeds all contain them. It is also important that several fruits and vegetables, as well as foods high in omega-3 fatty acids, such salmon. Vegetables with dark green leaves in particular protect the brain [49]. Other beneficial meals for the brain are nuts, seeds, and legumes like beans and lentils. In this survey it is shows that,72%,28% of the respondents taken green leafy vegetables and fresh fruit like guava, pineapple, melon, mango, jackfruit etc. as their regular vitamin intake. Junk food consumption may raise a child's or adolescent's chance of developing aggressive tendencies and experiencing psychological discomfort. An effective strategy for enhancing mental health may be to change eating habits in favor of healthier diets. This table shows that just is very popular to the mentally ill patients. They were not avoiding junk food .58% of them regularly eaten junk food like fried chicken, snacks, nooduls etc. .and 42% of them little avoid junk food.

Conclusion

These findings give us crucial data that will help us better understand how nutrition and other elements affect mental health. To maximizing mental health and enabling to reach their full potential, public health measures and school regulations should be created to guarantee that all People have access to a healthy diet both before and during any work. For a very long time, Bangladesh has worked to improve issues with mental health and lower the prevalence of psychiatric disorders. To reduce the prevalence of mental disorders in both rural and urban areas, the Bangladeshi government is working to implement related policy framework. This study may be useful in gaining attention to increase awareness and aid in government action to reduce psychiatric disorders and improve mental health.

Acknowledgment

The authors would like to express our sincere gratitude to all those who contributed to the successful completion of our study on the impact of physical exercise and lifestyle on the mental health of psychiatric patients at the National Institute of Mental Health Hospital. We are immensely grateful to our project supervisor, Prof. Dr. Bellal Hossain, Dean of FAHS, Daffodil International University, for approving this research project. The authors also like to extend our heartfelt thanks to our research assistant, Md. Shameem Hossain, for his invaluable contributions to this study, from top to bottom. His input and expertise were instrumental in the completion of this study, helping us analyze our findings and draw meaningful conclusions. Without their support, this study would not have been possible.

References

[1]. L. T. S.-J. B. Amy Orben, "The effects of social deprivation on adolescent development and mental health," *Lancet Child Adolesc Health,* vol. 4, pp. 634-640, 2020.

[2]. M. M. S. X. M. M. P. J. M. M. P. a. A. V. R. M. P. Zoe J. Walker, "Depression, Anxiety, and Other Mental Disorders in Patients With Cancer in Low- and Lower-Middle–Income Countries: A Systematic Review and Meta-Analysis," *JCO Global Oncology* , 2021.

[3]. I. A. T. F. d. O. S. A. C. D. Juliana Dias de Lima, "The comorbidity conditions and polypharmacy in elderly patients with mental illness in a middle income country: a cross-sectional study," *IBRO Reports,* vol. 9, pp. 96-101, 2020.

[4]. F. J. Penedo and J. R. Dahn, "Exercise and well-being: a review of mental and physical health benefits associated with physical activity," *BEHAVIOURAL MEDICINE,* vol. 8, no. 2, pp. 189-193, 2005.

[5]. P. Parminder Raina, M. Maureen O'Donnell, M. Peter Rosenbaum, P. Jamie Brehaut, P. Stephen D. Walter, M. Dianne Russell, B. Marilyn Swinton, M. Bin Zhu and M. Ellen Wood, "The Health and Well-Being of Caregivers of Children With Cerebral Palsy," *Pediatrics,* vol. 115, no. 6, p. 626–636, 2005.

[6]. P. R. Amato, "The Impact of Family Formation Change on the Cognitive, Social, and Emotional Well-Being of the Next Generation," *The Future of Children,* vol. 15, no. 2, pp. 75-96, 2005.

[7]. C. M. D. Isobel Sharpe, "Climate change, climate-related disasters and mental disorder in low- and middle-income countries: a scoping review," *BMJ Open,* 2021.

[8]. P. Fusar-Poli, "Integrated Mental Health Services for the Developmental Period (0 to 25 Years): A Critical Review of the Evidence," *Frontiers in Psychiatry,* vol. 10, 2019.

[9]. R. A. P. J. Fusar-Poli P, "What is an attenuated psychotic symptom? On the importance of the context.," *Schizophr Bulletin,* vol. 43, no. 4, p. 687–692, 2016.

[10]. F.-P. P. C. M. B. I. e. al., "Prognosis of brief psychotic episodes: a meta-analysis.," *JAMA Psychiatry,* vol. 73, p. 211–220, 2016.

[11]. M. C. A. D. M. G. R. I. B. S. T. V. R.-C. A. C. P. M. Paolo Fusar-Poli, "Diagnostic and prognostic significance of Brief Limited Intermittent Psychotic Symptoms in subjects at ultra high risk.," *Schizophr Bulletin,* vol. 43, no. 1, p. 48–56, 2016.

[12]. L. P.-V. J. H. M. e. a. Rajmil, "Effect on Health-related Quality of Life of changes in mental health in children and adolescents.," *Health Qual Life Outcomes,* 2009.

[13]. H. M. K. R. F. F. Dennis Bastiaansen 1, "Determinants of quality of life in children with psychiatric disorders," *Qual Life Res,* vol. 14, no. 6, pp. 1599-1612, 2005.

[14]. A. P. B. A. Mathai J, "Use of the Strengths and Difficulties Questionnaire as an outcome measure in a child and adolescent mental health service.," *Austral Psychiatry,* pp. 334-337, 2003.

[15]. A. R. S. E. M. F. K. S. N. K. L. Louis S Matza 1, "Assessment of health-related quality of life in children: a review of conceptual, methodological, and regulatory issues.," *Value Health,* vol. 7, no. 1, pp. 79-92, 2004.

[16]. C. F. J. M. T. Nicola-Jayne Tuck, "Assessing the effects of vegetable consumption on the psychological health of healthy adults: a systematic review of prospective research.," *The American Journal of Clinical Nutrition,* vol. 110, no. 1, p. 196–211, 2019.

[17]. B. I. S. A. H. N. T. E. A. M. G. H. Gomes AP, "Interrelationship between diet quality and depressive symptoms in elderly.," *J Nutr Health Aging,* vol. 22, p. 387–392, 2018.

[18]. B. S. F. W. A. G. H. P. J. H. Daniel Freeman, "Sleep disturbance and psychiatric disorders," *Lancet Psychiatry,* vol. 7, no. 7, p. 628–637, 2020.

[19]. D. J. D. F. P. &. W. C. J. Rickwood, "When and how do young people seek professional help for mental health problems?," *Medical Journal of Australia,* vol. 187, no. 7, p. 35–39, 2007.

[20]. K. W. Lange, "Diet, exercise, and mental disorders – public health challenges of the future.," *Movement and Nutrition in Health and Disease,* vol. 2, p. 39–59, 2018.

[21]. V. D. K. M. e. a. Gould MS, "Teenagers' attitudes about coping strategies and help-seeking behaviour for suicidality.," *J Am Acad Child Adolesc Psychiatry,* vol. 43, pp. 1124-1133, 2004.
[22]. S. J. Daddis C, "Middle-class African American families' expectations for adolescents' behavioural autonomy.," *Int J Behav Dev,* vol. 29, pp. 371-381, 2005.
[23]. J. W. N. M. A. L. D. P. J. A. B. P. A. N. F. P. G. L. D. M. f. M. B. C. P. a. W. T. R. P. ,. B. V. M. A. ,. J. R. H. M. ,. J. E. David B. Allison PhD, "Obesity Among Those with Mental Disorders: A National Institute of Mental Health Meeting Report," *American Journal of Preventive Medicine,* vol. 36, no. 4, pp. 341-350, 2009.
[24]. K. A. A. P. E. A. S. P. S. I. P. P. R. S. W. M. S. J. B. M. M. John A. Naslund MPH, "Lifestyle Intervention for People With Severe Obesity and Serious Mental Illness.," *American Journal of Preventive Medicine,* vol. 50, no. 2, pp. 145-153, 2016.
[25]. J. M. S. M. A. C. Leila Tarokh, "Sleep in adolescence: Physiology, cognition and mental health," *Neuroscience & Biobehavioral Reviews,* vol. 70, pp. 182-188, 2016.
[26]. C. v. R. J. S. A. M. M. Eduard J. de Bruin, "Effects of sleep manipulation on cognitive functioning of adolescents: A systematic review," *Sleep Medicine Reviews,* vol. 32, pp. 45-57, 2017.
[27]. M. F. J. F. P. P. Afonso, "Impact of working hours on sleep and mental health," *Occupational Medicine,* vol. 67, no. 5, p. 377–382, July 2017.
[28]. A. J. B. Kirstie N Anderson, "Sleep disturbance in mental health problems and neurodegenerative disease," *Nature and Science of Sleep* , vol. 5, pp. 61-75, 2013.
[29]. L. J. H. E. M. R. A. L. B. DAVID M. FERGUSSON, "Suicidal behaviour in adolescence and subsequent mental health outcomes in young adulthood," *Psychological Medicine,* vol. 35, no. 7, pp. 983 - 993, 2005.
[30]. J. C. Wakefield, "The concept of mental disorder: On the boundary between biological facts and social values.," *American Psychologist,* vol. 47, no. 3, p. 373–388, 1992.
[31]. L. T. D. B. ,. a. J. S. M. Lindsey Nadon, "Should Burnout Be Conceptualized as a Mental Disorder?," *Behav. Sci.,* vol. 12, no. 3, p. 82, 2022.
[32]. D. S. A. J. F. F. C. Suhailah Ali, "Excess mortality in severe mental disorders: A systematic review and meta-regression," *Journal of Psychiatric Research,* vol. 149, pp. 97-105, May 2022.
[33]. M. O. B. D. M. M. M. B. E. B. F. N. J. Fernanda C. Gabriel, "Nutrition and bipolar disorder: a systematic review," *Nutritional Neuroscience,* 2022.
[34]. J. L. W. A. S. W. S. G. Thalia M Sparling, "Depression among women of reproductive age in rural Bangladesh is linked to food security, diets and nutrition.," *Public Health Nutrition,* vol. 23, no. 4, 2020.
[35]. A. K. H. S. K. A. B. A. R. M. D. E. L. B. J. H. B. A. J. L. P. C. M. J. W. R. H. P. K. J. B. S. J. H. J. Amber J. Zimmerman, "A psychiatric disease-related circular RNA controls synaptic gene expression and cognition," *Molecular Psychiatry,* vol. 25, p. 2712–2727, 2020.
[36]. E. T. K. L. M. M. Camille S. Wang, "BDNF signaling in context: From synaptic regulation to psychiatric disorders.," *Cell,* vol. 185, no. 1, pp. 62-76, 2022.
[37]. *. M. M. T. W. 1. J. A. N. B. L. F. G. H. R. B. D. P. A. J. S. a. V. J. Douglas Bremner, "Diet, Stress and Mental Health," *Nutrients,* vol. 12, no. 8, p. 2428, 2020.
[38]. E. M. v. d. B. J. K. B. J. F. C. ,. J. H. ,. S. H. ,. H. S. ,. S. .. D. Roger A.H. Adan, "Nutritional psychiatry: Towards improving mental health by what you eat," *European Neuropsychopharmacology,* vol. 29, no. 12, pp. 1321-1332, 2019.
[39]. N. F. R. A. A. J. R. Larissa L. da Cunha, "Effects of exercise training on inflammatory, neurotrophic and immunological markers and neurotransmitters in people with depression: A systematic review and meta-analysis.," *Journal of Affective Disorders,* vol. 326, pp. 73-82, 2023.
[40]. J. V. C. B. R. Romain Meeusen, "Endurance exercise-induced and mental fatigue and the brain," *Experimental Physiology,* vol. 106, p. 2294–2298, 2020.
[41]. H. T. W. L. Z. Mingxia Zhao, "The Effects of Dietary Nutrition on Sleep and Sleep Disorders.," *Mediators of Inflammation,* 2020.
[42]. W. R. Pigeon, "W. R. Pigeon, "Diagnosis, prevalence, pathways, consequences & treatment of insomnia.," *The Indian Journal of Medical Research,* vol. 131, p. 321–332, 2010..
[43]. N. R. L. R. J. E. B. a. N. R. C. P. M. Ridker, "Comparison of C-reactive protein and low-density lipoprotein cholesterol levels in the prediction of first cardiovascular events.," *The New England Journal of Medicine,* vol. 347, no. 20, p. 1557–1565, 2002.
[44]. A. M. a. C. E. P. M. P. St-Onge, "Effects of diet on sleep quality," *Advances in Nutrition,* vol. 7, no. 5, p. 938–949, 2016.
[45]. H. S. R. H. e. a. L. Shilo, "The effects of coffee consumption on sleep and melatonin secretion," *Sleep Medicine,* vol. 3, no. 3, p. 271–273, 2002.
[46]. N. S. a. R. K. K. Peuhkuri, "Dietary factors and fluctuating levels of melatonin.," *Food & Nutrition Research,* vol. 56, no. 1, p. 17252, 2017.
[47]. 634–640, "Diet and inflammation.," *Nutrition in Clinical Practice,* vol. 25, no. 6, p. 634–640, 2010.
[48]. H. O. a. C. M. C. A. Afaghi, "High-glycemic-index carbohydrate meals shorten sleep onset," *The American Journal of Clinical Nutrition,* vol. 85, no. 2, p. 426–430, 2007.
[49]. K. A. S. K. H. S. S. S. a. t. T. S. o. W. o. D. a. H. S. G. R. Katagiri, "Low intake of vegetables, high intake of confectionary, and unhealthy eating habits are associated with poor sleep quality among middle-aged female Japanese workers,," *Journal of Occupational Health,* vol. 56, no. 5, p. 359–368, 2014.