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Writing for the Sciences

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Inquiry Research Paper Final Draft

Introduction:

Healthy diet and eating patterns are crucial for children because habits developed during childhood stay for a lifetime. Especially for preschoolers, who have transitioned from being playful at home to more responsible beings during preschool activities, building healthy eating habits can go a long way. Healthy diet promotes good health which everyone knows. What people don't focus much on is how a nutritional diet impacts mental health outcomes among preschool children. Parents, being unaware of how diets can contribute to a happy mood in children, often don't work on gathering specific information about food elements that might boost up a child's psychological health. However, they try to their best ability to organize meal plans to build up children's bodies because human history has witnessed severe threats to children's survival due to food scarcity and malnutrition (Birch, 2007). Nutritional diets not only boost their body but also impact their mood. Kids who eat healthy tend to have lower mood disorders and depressive symptoms (O'Neil, 2019). Mental health conditions in childhood persist throughout life in most cases or influence the mental health in adulthood. Therefore, it is important to research the impact of diet plans on children's psychological health.

Initial inconsistency in research outcomes:

For this paper, I am considering several research studies and their results to dive into the different ways diet influences mood. Researcher Preeti Khanna, in "Nutritional Aspects of

Depression in Adolescents - A Systematic Review,” as a finding of her systematic reviews and meta-analyses, has confirmed that adults with healthy eating patterns have experienced less depression than those who were eating unhealthy and had irregular eating habits (Khanna, 2019). The evidence of positive correlation between healthy eating and better mental health outcomes in adults have sparked interest in researchers to carry on their investigation in younger participants. When researchers started studying younger participants like children and adolescents, the results were inconsistent initially. Some studies have shown positive associations between diet quality and high spirits among them while some didn't show significant correlation between the two. In Adrienne O'Neil's paper, "Relationship Between Diet and Mental Health in Children and Adolescents: A Systematic Review," he reviewed 12 studies in which the participants were children or adolescents aged 19 or below. In these studies, researchers assessed children's medical records and self or informant reports to analyze how dietary intake influenced internalizing disorders like depression, low mood, and the likes. For these studies, the set standards of healthy diet was higher intake of nutrient rich food. They assigned a higher intake of a fat saturated diet and processed food as an unhealthy diet. In these studies, there was evidence of correlation between unhealthy dietary intake and depressive mood. However, the positive correlation between healthy eating patterns and good mood was inconsistent (O'Neil, 2019). Despite the inconsistency, the evidence of unhealthy diet promoting depression sets a foundation for further inquiry into the positive correlation between healthy diet and sound psychological health in children. Adrienne, while analysing some other studies, mentioned that the participants might have subconsciously emphasized a healthy diet more than the unhealthy ones because of

social desirability bias which leads people to say things that are desirable to hear from them (O'Neil, 2019).

Studies supporting positive correlation between healthy diet and sound mental health outcomes:

Other studies had similar implications. Researcher Preeti Khanna also reviewed a set of 56 studies in her article, “Nutritional Aspects of Depression in Adolescents - A Systematic Review,” involving adolescents as participants and have found out that the nutritional status of diet right from the prenatal period of a mother is influential on sound mental health outcomes in children. Analyzing the results, we can conclude that the intake of saturated fats, sugary beverages, and snack-like food in childhood increases the likeliness of mental disorders in adulthood (Khanna, 2019). Roger A.H. Adan, in his article, “Nutritional psychiatry: Towards improving mental health by what you eat,” found evidence from his meta-analyses of studies that deficiencies of nutrients, mainly vitamins, resulted in lower cognitive abilities (Adan, 2019). Research has further approved that early life habits set the base for later life development and influences adults’ vulnerability to diseases. Therefore, brain development, impaired due to nutritional constraints, can lead to permanent impairment in later life. Taking care of nutritional supply to the body in early life can ensure sound cognitive and mental health capacities. Roger A.H. Adan, in his paper, also found from his meta-analyses that there is a strong correlation between increased consumption of fresh vegetables with higher levels of mental wellbeing (Adan, 2019). Farhangi Abbasalizad, along with her fellow researchers, conducted a study with 107 Iranian female adolescents and reported the results in her paper, “Mental health problems in relation to eating behavior patterns, nutrient intakes and health related quality of life among

Iranian female adolescents.” They found that unhealthy eating behaviours like snacking and meal skipping to be positive predictors of depressive disorders and low fat saturated diet to be negative predictors of hyperactivity disorders (Abbasalizad, 2018). Therefore, we see that several systematic reviews and meta-analyses have shown a strong association of healthy diet with mental wellbeing which should encourage parents to modify their meal plans based on the mental needs of children.

Results and limitations:

All of these studies imply that there is a potential relation between dietary intake and mental health outcomes. This paper doesn't discuss the specific elements of food and how food plans should be made for preschoolers; rather, it sets the foundation to inspire further research into the biological basis of mental health through diets people can control by creating healthy consumption habits among children. This paper encourages further research into what type of food and nutritional components benefit what aspect of mental health. If further research can be done on the nutritional impact of each type of food on different behaviour patterns, it will be convenient for parents to organize for kids meal plans rich with the nutrients they need more than other alternatives based on their behavioral patterns. Preschoolers become more active physically and mentally as they engage in different activities. To energize them, parents should plan a diet having a proportionate quantity of all essential nutrients. Therefore, it is important to have adequate knowledge about the nutritional contents and make the right choice of food intake right from a younger age so that such habits carry on to later age.

Conclusion:

Parents should take interest in this topic in order for their kids to grow not only a healthy

body but also a sound mind. They should reinforce their kids positively for healthy diets and negatively for processed food. Parents should oversee that kids follow their diet rules as they grow up and don't get externally influenced to eat junk food. Supervision of parents on a child's eating patterns will help children maintain sound mental health throughout their life and pass on the lessons to the future generations. Promoting spread of knowledge regarding this topic across generations can give rise to happier generations of people. Preschool teachers and educators at all levels can make a difference by informing kids and their parents of the beneficial mental outcomes of nutritional diet. With the motive to build a healthy nation, educators can play a big role in taking care of kids' diets while they stay at school. Since educators interact with kids on a daily basis and are able to say about the strengths and weaknesses of students, they can make informed decisions for children about what to eat based on their behaviours if they have adequate knowledge regarding this topic. Children are more likely to apply in their lives the suggestions of teachers as they rely on teachers to learn new pieces of information. What the educators suggest is likely to create a huge impact on the young minds and hence educators, especially at the preschool level, should educate themselves on this topic and create a healthy atmosphere for kids by instilling in them the idea of the right choice of food to build a happy mind.

References

Khanna, P., Chattu, V., & Aeri, B. (2019). Nutritional aspects of depression in adolescents - A systematic review. *International Journal of Preventive Medicine*, 10(1), 42.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6484557/>

O'Neil, A., Quirk, S., Housden, S., Brennan, S., Williams, L., Pasco, J., . . . Jacka, F. (2014).

O'Neil, A., Quirk, S., Housden, S., Brennan, S., Williams, L., Pasco, J., . . . Jacka, F. (2014). Relationship between diet and mental health in children and adolescents: A systematic review. *American Journal of Public Health*, 104(10), E31-E42.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4167107/>

Birch, L., Savage, J., & Ventura, A. (2007). Influences on the Development of Children's Eating Behaviours: From Infancy to Adolescence. *Canadian Journal of Dietetic Practice and Research : A Publication of Dietitians of Canada = Revue Canadienne De La Pratique Et De La Recherche En Dietetique : Une Publication Des Dietetistes Du Canada*, 68(1), S1-S56.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2678872/>

Adan, R., Van Der Beek, E., Buitelaar, J., Cryan, J., Hebebrand, J., Higgs, S., . . . Dickson, S.

(2019). Nutritional psychiatry: Towards improving mental health by what you eat. *European Neuropsychopharmacology*, 29(12), 1321-1332.

<https://www.sciencedirect.com/science/article/pii/S0924977X19317237>

Abbasalizad Farhangi, Mahdieh, Dehghan, Parvin, & Jahangiry, Leila. (2018). Mental health problems in relation to eating behavior patterns, nutrient intakes and health related quality of life among Iranian female adolescents. *PLoS ONE*, 13(4), E0195669.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0195669>

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Inquiry Research Paper 2 New Audiences

New Audience 1: Middle Schoolers

New Audience 2: Elementary Schoolers

Jade was in 6th grade. She was a happy child and liked to play in the playground after school. She loved studying and playing with her little sister, Lily, who was three years old. She always had the energy to do things she liked to do. Her younger sister was also cheerful just like Jade. One day, all of a sudden, Lily started crying a lot. Jade tried to cheer up Lily by giving her toys to play with but Lily wouldn't enjoy playing as before. She always looked a little lost. Jade wondered, "What has happened to my sister?" In the meantime, her mom also noticed Lily's changed behavior and started thinking of what she could do to bring back Lily to her normal behavior.

After a few days, Jade saw that her mom is making a chart of a meal plan for Lily. Her mom was putting a lot of effort into making a list of food Lily should have regularly and a separate list of food she should avoid. Jade was surprised that her mom is spending so much time on making a meal plan while Lily is so sad most of the time. She said to her mom, " Mom, get Lily some new toys and dresses. She is so sad nowadays. We need to make her happy like before." Her mom then said, " I am making this meal plan to make her happy. Healthy food makes for a good mind, dear. So we need to feed Lily good food to cheer her up." Jade was surprised to know that what they ate could make them feel the way they felt. This information

was new to her and she found it interesting. She wanted to learn more about the food which would make her happy. Her mom mentioned that Jade was such a happy child because she loved to eat fruits and vegetables. Jade thought to her herself that she ate more of those than her sister, Lily. Jade started to realize that healthy food was necessary for Lily to be happy again.

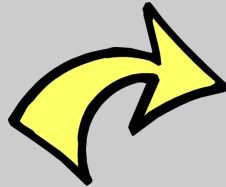
For the next few days, their mom fed Lily healthy food rich with green vegetables, milk, and egg-based meals avoiding bad food like burgers, pizza, French fries, soda, and the likes that Lily developed habits of having before. Even though Lily would ask for pizza once in a while, their mom didn't let her eat it. Their mom strictly followed the rules of healthy eating after talking to a doctor. After a few days, Jade and her mom observed that Lily was a playful child again. She was smiling, laughing around and enjoyed playing like before. Jade understood that changing Lily's eating habits helped her to be cheerful. Jade shared her experience with her friends. Her friends also didn't know that they could be happier if they maintain good eating habits by avoiding junk food. From then on, her friends started avoiding fast food and other bad food. They all shared how healthy they feel after avoiding those foods and they also feel good. They started realizing that building good eating habits was helping them build a healthy mind.

She asked her teacher about how healthy food can develop the mind. Her teacher said, "Healthy food builds up your body and your mind also." Now that her teacher also supported this idea, Jade paid more attention to learning more about what foods are good for her mind and what is bad. All of the students wanted to learn more about developing good eating habits. Some of them shared that their parents didn't mention all of this before. The teacher said that she would discuss the importance of food for making a healthy mind in the next parent-teacher meeting. She emphasized that parents needed to know about this topic so that they can make nutritious

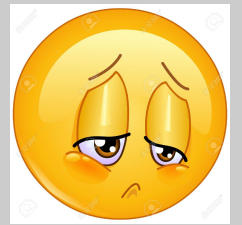
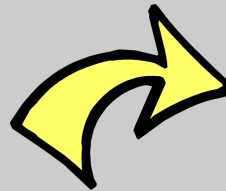
meals for their kids. She also encouraged her students to learn about what food is nutritious and what is not.

I am a child and I want to be happy. I should eat good food to be happy. Hmm... what food makes me happy? And what makes me sad? Hmm...Let me think....

when I eat all these green food, I feel so happy.



when I eat burgers, I become sad after some time.



when I eat fruits, I feel so good.



when I eat pizza, I become a little angry. Is the hot sauce heating me up?



I get it now. I should eat good food for a good mind. Eating good food gives me energy and also makes me happy.