

## **Thesis Proposal: Subject & Title**

Complete the following step

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Subject:

Thesis Proposal

Title:

Assessment of the Role of Nutrition in Addiction and Recovery

### **Introduction**

Complete Step

Introduction

Addiction is defined as a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences (American School of Addiction Medicine, 2022). Addiction can be considered in the context of substances (ie: drugs) and/or behaviours (ie: gambling). For the purposes of this study, we will focus on the former. Substance use and misuse pose a number of harmful consequences to an individual's psychological, emotional, and social well-being. Likewise, it leads to increased risk of several infectious illnesses and medical conditions, including mental disorders, cancer, stroke, and liver, lung, and cardiovascular diseases (source). Importantly, many of these issues are not caused by substance use alone but are by-products of the poor nutritional habits that often exist in those struggling with addiction. In general, individuals in active addiction have a lifestyle that is not focused on health or nutrition. This severely affects the user's food intake, which eventually leads to undernutrition or malnutrition (Wiss, 2019).

With respect to treatment and recovery from addiction, programs are emerging that use nutrition as a means to target substance abuse and/or relapse prevention. A healthful diet can promote mental health which is an important aspect of recovery. For those battling substance abuse, nutrition plays a key role in maintaining recovery while also improving the resulting health conditions and deficiencies (Salz, 2014).

Based on the above information and challenges, this study will investigate the role of nutrition in addiction and in the recovery from substance abuse.

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### **Description**

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Description

Nearly 5% of the world population is currently estimated to use drugs once daily, and almost 0.6% suffer from severe drug use disorder. To date, opioids and alcohol are the most harmful type of used drugs, and cannabis remains the world's most widely used drug (Mahboub, 2021). Drug use influences body composition, metabolism, and nutrient deficiencies, which can lead to malnutrition and subsequent disease. The term malnutrition describes a state of imbalance—excess or deficiency—that leads to alteration in body composition and negatively affects the health status of the individual. Essential micronutrients play an important role in mood regulation by the brain, and deficiencies in these nutrients, in addition to food deprivation associated with some addictions, correlate with poor mental health, especially depression (Fielden, 2006). The high prevalence of co-occurring substance use and mental disorders like depression may have a negative impact on users' recovery, which can lead to relapse if not adequately addressed. As such, examining the role of nutrition in addiction recovery is paramount.

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### **General Analysis**

Complete Step

General Analysis

Simply put, the food we eat influences the way the brain functions. When the body does not produce enough a sufficient amount of neurotransmitters, or if these chemical messengers are unbalanced, this can lead to feelings of anxiety, irritability, cravings, and poor sleep. It can also affect memory, motivation, and mood, all of which are important protective factors for addiction and the prevention of relapse (Fielden, 2006). Supplementation could have a positive effect on the psychological behaviors that may prevent relapse, prevent chronic illnesses associated with addiction, or reduce symptoms of pre-existing addiction-related illnesses. The intake of specific nutrients like amino acids and omega-3 fatty acids are promising in decreasing relapse and improving mental health during treatment, but additional research is required to confirm its efficacy as a treatment method for people who use substances.

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### **Current Information**

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Current Information

As of 2020, over 37 million Americans were current illegal drug users (had used within the past 30 days). Over 59 million or 21% of people over the age of 12 had misused drugs prescription drugs within the past year, and nearly 30 million Americans have an alcohol use disorder (National Center for Drug Abuse Statistics, 2022).

Alcohol and drug misuse and related disorders are major public health concerns that are taking an enormous toll on our society. The annual economic burden of substance abuse is estimated to be \$249 billion for alcohol and \$193 billion for illicit drug use accordingly to data from 2019 (U.S Department of Health and Human Services, 2022). Likewise, the misuse of and addiction to opioids—including prescription pain relievers, heroin, and synthetic opioids such as fentanyl—have become increasingly common chronic illnesses in the United States.

Individuals who misuse substances are a vulnerable population, and most of the existing research exploring their nutritional status indicates malnutrition. Substance use affects the nutritional status and body composition through decreased food intake and nutrient absorption, altered metabolism, and use of multiple drugs, in addition to the dysregulation of hormones altering the mechanism of satiety and food intake (Wiss, 2019). Other factors affecting the nutritional status of people who use substances include the type, frequency, and duration of the substance used and the presence of infectious diseases. Malnutrition and poor dietary habits can also lead to cancers, cardiovascular disease, lung disease, diabetes, and more (Volkow, 2010). Nutritional counselling and supplementation may prevent addiction, assist in the treatment of addiction, and prevent relapse.

Essential micronutrients play a crucial role in mood regulation by the brain, and deficiencies of these nutrients, and/or food deprivation, correlate with poor mental health, which is an important protective factor for preventing addiction and relapse. Adequate dietary intake of micronutrients is necessary for the synthesis of serotonin, dopamine, and catecholamines. Deficiencies of copper, selenium, manganese, magnesium, folate, and B-complex vitamins are linked to depression, which might hinder the treatment process in substance misusers. Vitamin and mineral supplementation should be considered, not only for the management of malnutrition but also as a preventive measure of relapse (Mahboub et al, 2021).

Serotonin plays a role in the modulation of many behaviors, including violence, aggression, mood, sleep, and appetite, which again, can serve as either risk or protective factors in addiction and recovery. The synthesis of serotonin begins with tryptophan, an amino acid. Increasing dietary intake of tryptophan can increase serotonin levels. Additionally, tyrosine and phenylalanine are involved in the synthesis of dopamine and catecholamines that influence behavioral performance, though more evidence is required to conclude that their supplementation is effective in the treatment of addiction. That said, when opiate-dependent patients are provided a combination of amino acids (phenylalanine, tryptophan, tyrosine, and glutamine) during the detoxification stage, they show a significant reduction in the craving for opiates. This may be an important tool in the treatment of substance use that warrants additional study (Mahboub et al, 2021). Furthermore, supplementation of Omega-3 fatty acids may have a positive impact on the psychological behaviors that could prevent relapse. The intake of these amino acids show promise for decreasing relapse and improving mental health during treatment.

A study by Mahboub et al (2021), found that basic nutrition education on healthful eating habits improves the quality of the nutritional intake of people who use drugs but does not seem to be solely effective in treating the problems faced by users and those undergoing treatment and improving their outcomes. This indicates the need for an individualized and comprehensive nutritional intervention. Indeed, individualized nutritional counseling and comprehensive nutrition education programs provided to individuals with substance use disorders have been shown to significantly improve 3-month sobriety success rates (Grant, 2004).

The objective of this study is to explore nutritional risk factors for developing addiction, as well as common nutritional deficiencies experienced by substance users and the efficacy of nutrition as a method of treatment for substance use disorders. The specific objectives will include:

- To identify specific nutritional deficiencies or trends that may contribute to the development of addiction
- To identify common nutritional deficiencies experienced by current substance users
- To establish the general attitude of substance users towards nutrition as a part of treatment
- To identify if supplementation could be useful in treatment for specific substance use disorders

· To determine if individualized and comprehensive nutrition education programs should be considered as part of an integrated addiction treatment regimen

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### **Discussion**

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Discussion

The objectives of this study are to determine if nutrition is an effective method of prevention and/or treatment and/or maintenance of sobriety as it pertains to substance misuse. Findings of this thesis will be presented in discussion, frequency tables, graphs. Presentation and discussion will be both qualitative and quantitative with reference to the literature review. Conclusion and recommendation will be drawn at the end of the discussion.

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### **Conclusion**

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Conclusion

With rates substance use disorder rising, there is an urgent need for new and effective treatment modalities that address the whole person, also known as integrated treatment. Though the concept of utilizing nutrition as treatment for addiction was proposed as early as 1955, it has still not been accepted in conventional addiction treatment. In the past decade, many private sector addiction treatment facilities have begun to incorporate "holistic" approaches to recovery, which include an emphasis on healthful eating, but at present, there are no established standards of practice (Wiss, 2019). Because drugs and food are both associated with cognitive control and executive functioning in risk/reward decision-making, nutrition intervention strategies are indeed grounded in accepted concepts of neuroscience and should be taken seriously by addiction treatment clinicians.

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### **Bibliography**

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