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Nutrition in Addiction Treatment

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Abstract

Care planning for individuals in addiction recovery is often challenging given the complexity of the disease and the uniqueness to the individual with compounding factors impacting one's health. Often times discharge planners and case managers design a care plan based on insurance coverage and available community resources such as structured support groups. As part of this planning, the research purpose of this study is to review the need and benefits of integrating nutritional support for individual in addiction recovery to support health and ongoing sobriety. The use of food and nutrition principles in the addiction and recovery industry are limited at best. The paper includes a comprehensive review of the existing literature as it relates to the benefits and uses of vitamins, minerals, eating patterns, and other lifestyle behaviors that can influence one's ability to succeed in sustaining sobriety. Personal reflection and discussion on the existing literature is provided. Results conclude the systemic integration of nutritional support can have positive effects on addiction recovery.

Keywords: Nutrition; Addiction; Recovery; Vitamins; Sobriety

Research Question

Should a nutritional program be core in the care plan of drug and alcohol treatment center (ATC) recovery clients?

Introduction

The path to recovery for those dealing with drug and alcohol addiction requires a person's willingness to become sober, change lifestyle and behaviors, and develop new coping skills. Support services are needed to supplement this individual commitment. The research suggests that a positive family support system, engagement in community, and psychosocial, emotional, and spiritual health practices, are essential beyond the physiological detoxification process. Additionally, working the 12-step program, sponsor guidance and having a home group are equally important. It is interesting to note that the literature mainly focuses on physical health for individuals in recovery, and primarily on physical detoxification from alcohol and chemicals. There is limited information on the nutritional value or role that food and supplementation play during one's inpatient and post-discharge care plan. The purpose of this study is to assess the value in systemically integrating nutritional support in ongoing care planning for addiction recovery.

The researchers address the potential place and role a nutritional program can have in supporting one's journey in recovery. The researchers consider how diet and nutrition deficiency contributes to addiction. It seems that one of the main national and global topics at the forefront of health care is food, nutrition, and exercise. These are utilized to improve the health of the population, reduce obesity, diabetes type II, liver disease, cardiovascular disease, and many other conditions. Why not apply the trio to alcoholism, as food and drug addictions that are largely prevalent in our country and the world with increasing incidences? The research on nutritional goals includes macronutrients through food sources and micronutrients in the form of vitamins and minerals. As this paper will uncover, nutritional deficiencies are present in individuals in recovery and their physical bodies have been consumed by toxins for years. It is suggested that long-term alcoholism has damaging psychophysiological effects to individuals [1,2]; identify that many drug addicts suffer from calorie and protein malnutrition and acute organic pathology. This leads to significant worsening of nutritional status in addicts. Even for drug-addicted patients in early stages of HIV, nutritional impairments were found and attributed to drug abuse and not their HIV infection. As with any health and wellness plan, it is critical that proper nutrition support the immune system and improve cognitive clarity and focus, to give individuals the best support possible to achieve success. It has been found that an addict's biological response to substances, support the immune system when nutritional status is normal [3].

Literature Review

As with any adverse or at-risk behavior that can lead to chronic disease, it is incumbent on individuals to take a level of responsibility, maturity, and willingness to make the life choices, with support and guidance, to improve self-health. The researchers feel with great conviction that in order for individuals to be held accountable and responsible, awareness, and consequences of negative and positive behaviors must be realized. This is particularly true for people in recovery who often present feelings of hopelessness, fear, and low self-worth. Goodman [4] describes the neurobiology and neuropsychology of addiction to the three functional systems of motivation-reward, affect regulation, and behavioral inhibition. The process includes common clinical characteristics as course of illness, that usually begins in early childhood or adolescence, behavioral features that may lead to harmful consequences, individuals' subjective experience of the condition, and sense of craving, self-esteem, and other contributing factors to one's addiction.

The current Addiction Treatment Center (ATC) and aftercare plan does a comprehensive job on incorporating principles that are geared to evidence–based treatment practices [5]. The model focuses on the psychosocial, emotional, and physiological considerations of individuals. The psychosocial aspect, generally addressed upon discharge using the Alcoholic Anonymous (AA) and other 12-step

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programs, attempt to reintroduce individuals back into community by using sponsors, AA meetings, home group meetings, and other similar activities [6]. Occasionally a counselor or social worker is assigned to assist those needing more in-depth emotional support and monitoring upon discharge from an ATC. When an individual is willing and compliant, aftercare and ATCs generally do a good job with the physical detoxification of drugs and alcohol during the average 28-day inpatient stay, but the nutritional aspect during the inpatient stay and the aftercare plan post-discharge is sporadic at best. From the researchers experience with drug and alcohol recovery, clients in ATCs and post-discharge do not understand, nor would one expect them to understand, the health consequences of nutrition and food. They might understand the consequences of abusing drugs and alcohol again, but personal nutritional values do not come into one's awareness. As stated earlier, understanding consequences are critical to help motivate one and find purpose and meaning in change. Isralowitz and Trostler [7] concluded that a more comprehensive drug prevention and health program needs to developed and that attention needs to be given to understand the relationship between substance abuse and the attitudes and behaviors of young adults toward health, specifically proper eating habits. The authors suggest that beyond hunger, other sensory stimuli, and emotions effect eating patterns and nutritional intake. In a recent study, Nolan and Stolze [8] found that higher food consumption and sweets were reported by substance-dependent college students at various stages of treatment and a relationship between the level of substance abuse and level of food consumption exists. This further supports the need for a more comprehensive plan for individuals in recovery to include food and nutrition. It is particularly remarkable that most addicts begin with the disease process from childhood or adolescence. It would be interesting to study the relationship between early food and nutrition intake value and eating patterns in this population and their behaviors at when older, to see if changes exist or whether early patterns simply carry forward.

It is also important to discuss factors that may vary by specific sub-populations such as college and adolescent groups. Barry and Petry [9] found that being overweight and obesity were associated with lifetime alcohol abuse and dependence in men but not women. Additionally, Rosen-Reynoso et al. [10] reported variation by ethnicity and race between obesity and psychiatric disorders and identified the role of and individual's physical health status as having a significant impact on the relationship between obesity and psychiatric disorders. The findings in the study suggest researchers must consider physical health status that includes nutrition when studying psychiatric and behavioral patterns across racial and ethnic groups. The researchers would also suggest that geographic factors and regional culture be considered in future studies.

Grant et al. [11] found that nutritional education is an essential component to substance abuse treatment programs and can improve outcomes, suggesting that dieticians should integrate nutrition education into care plans that can improve success rates and reduce recidivism. The idea is to integrate as core, other dimensions, and balance a person in recovery with nutritional values, minerals, and vitamins. There has been a great effort from a public and social education model over the past two decades to assess and enhance community knowledge on the benefits of proper nutrition, follow dietary guidelines, and engage in positive lifestyle behaviors [12]. Cowan and Devine (in press) found that environmental and educational intervention could be effective in reducing waist circumference, body mass index, and diet in adult men in substance abuse treatment. The study did not address energy levels and long-term sobriety, but identified that individuals in recovery historically have had poor dietary habits. A healthier diet and weight loss can assist in skill development and sustained behavior toward positive health. Cowan and Divine [13] identify behavioral interactions between food and substance abuse and recognize the opportunities for nutrition and weight interventions since individuals in active addiction often have food deprivation, unhealthy food choices, and excessive weight.

In an earlier relevant study, Yung et al. [14] found that individuals in early recovery that had higher sugar diets, stayed sober longer and presented deficits in B vitamins. The authors suggests that this may be related to increased serotonin levels in the brain associated with high carbohydrates diets, and also found a potential positive correlation between vitamin supplement and increased length of sobriety. However, the authors did not have initial data on the nutritional status prior to the study to suggest any explanations. Further research was conducted supporting the evidence that alcoholism and cigarette smoking seriously harm an addict's vitamin B levels [15]. Researchers suggest that one's diet and vitamin B levels, other micronutrients, and balancing serum foliate can support an alcoholic's nutritional recovery and ultimately one's health and healing process [16].

There are numerous studies that will be reviewed regarding some of the vitamins and mineral that can support brain functioning in individuals in addiction. Recently, addiction has been recognized as "a chronic brain disease with complex interactions from repeated exposure to drugs, biological and environmental factors which requires a multi-pronged approach that addresses the psychiatric, medical, legal, and social consequences of addiction. Volkow and Li [17] indicate that further research is needed to understand the brain circuitry and dopamine levels, in relationship to adverse brain effects caused by substance abuse. There has been much discussion in the field regarding amino acid therapy in recovery. Although the sample was limited, Chen et al. [18] found that detoxification treatment with the use of amino acid therapy resulted in a relapse-free sample in 12 subjects. This is further supported in inpatient treatment of alcohol and polydrug abusers, where consuming amino acids into the body supports recovery [19]. Blum and Gold [20] suggested that after four decades of study on dopamine levels, it is now time to move toward interventions and treatment in practice. In a recent study, Avena et al. [21] found a potential link between food and drug addictions to the dopamine and opioid systems in humans. It is also known that lack of the D2 gene receptor causes individuals to seek alternative stimulation. Our culture provides many opportunities for high-risk addictive behaviors such as severe alcoholism, cocaine, heroin, and other negative patterns.

Bunout [22] notes that excessive alcohol intake interrupts the metabolism of most nutrients often leading to liver disease. Additionally, an alcoholic may replace up to 60% of their daily calorie intake with alcohol. Researchers also found an imbalance of minerals in individuals with chronic liver disease such as zinc, copper, manganese, and iron [23]. There have also been links between alcoholism and other pathologies such as alcoholic heart disease that results in decreased energy metabolism that nutrition, diet, and lifestyle can support [24].

Knowing this information, it is with great wonder why the ATCs and recovery care continuum has not consistently recognized and integrated nutritional programming in care planning. Not only can this help with physical health, but also holistic health. Low Dog [25] suggests that to achieve positive mental health, one must form proper dietary habits, exercise, and use dietary supplements such as B-vitamins, omega-3 fatty acids, and other vitamins and minerals. Ingestion of food has also been studied to determine the impact consumption has on transient mood and emotional attributes of food intake affecting

the cognitive functioning of the brain [26]. The researchers often hear that individuals engage in emotional eating to fill a gap or void. In recent pilot research the authors conducted using literature review and interviews with research participants that addiction often comes from filling a void. In recovery, the profession attempts to address and prevent the shift from addiction to drugs and alcohol to some other vice such as food. Buydens-Branchey et al. [27] indicated that fatty acid intake through supplementation supports substance abusers by reducing anger and anxiety levels. In recovery, anxiety, fear, false pride, arrogance, anger, and other disturbing thoughts and emotions are often referred to as trigger points for relapse. Further research should be done to study process and potential nutritional protocol use in ongoing recovery planning.

Anticipated Application of Food and Nutrition Principles

As integrative medicine continues to be acknowledged in society, our consciousness, and worldview remain challenged by the complex issues regarding perspective, process of integration, and health care outcomes. Bell et al. [28] explored the theory and relevance of utilizing a complex system theory to understand our health as emergent and dynamic, whereas whole person-whole care equals more than the sum of its parts. It is with this perspective the researchers believe the recovery industry would have better outcomes, if all the pertinent evaluation variables relevant to shaping care and guiding outcomes were included. If addiction is approached as multi-factored, including genetic, physical, emotional, psychological and spiritual, we could recognize multiple perceived origins. This healing-oriented integral approach would give rise to a conceptual model that includes all relevant and contributing co-factors and variables by assessing and treating the uniqueness of an individual suffering from addiction. The purpose of this research study is to take one area of a potential care plan, and explore its fundamental inclusion as a probable root, and contributing symptomatic problem in one diagnosed with addiction. The researchers chose to review the inclusion of diet and nutrition as core components of a treatment plan and lifestyle program from an integrative treatment approach for those in addiction and recovery.

Neuroscience continues to reveal how the physical nature of the brain is related to the subjective nature of mind and ultimately mind-body connection. Siegel [29] expands this understanding to include mind, brain, and relationships. Four decades of research support how our nervous system is neurologically shaped toward an "interpersonal biology" that fits an integral attunement that includes resilience, well-being, and the lifetime of linkage at the intersection of how we connect with self and world. The lived neurological life experience is a momentary snapshot of sensation that includes body, emotions, thoughts, facts and reflection that evolves our life story and narrative. The brain regions of brainstem, limbic area, and cortex represent the culmination of relationship that helps define our health. The limbic system regulates through the hypothalamus, a master endocrine via the pituitary gland by connecting the nervous system to the endocrine system, and regulates our kinesthetic response and cognitive understanding of life. The action of chemicals in the brain (neurotransmitters), manufactured by brain cells (neurons) that carry information, have been scientifically studied to play a major role in how the mind/body engages in the feelings of pleasure, and fight/flight syndrome regarding well-being by defining optimum mental health and the contribution toward physical health. Blum and Gold [20] report 30 years of advances in neuroscience study on the potential neuro-chemical activation of brain reward, regarding the mesolimbic relationship associated with addiction. The authors report that current pharmacological therapies have limited success because they focus on maintenance or interference of addiction euphoria rather than address the whole-person, root cause, and symptoms of lived experience.

Science continues to reveal how the relationship of our mental status of mood, intellect, ability to function in life situations, and ability to behave in a desired manner with ease, joy, and happiness, are influenced by our nutritional status. The risk of nutritional injury corresponds with mental health. Walker [12] states mental health and nutrition must be included in the diagnosis and treatment of addiction as a core concept. Clinical nutrition refers to the application of nutritional knowledge bestowed to the individual for maintaining optimal health and prevention of disease. Clinical nutrition is composed of food and non-food sources recognized as micro and macro nutrients, and recognizes that optimum physical and mental health are affected by intake, and the storage and range of nutritional support utilized to sustain physical/mental health.

There is an urgent need for data to support an integrative approach to addiction. Data exists that suggests poor nutrition may be a modifiable risk factor for addiction. Low Dog [25] explains the role of nutrition in mental health, recognizes the health benefits of the Mediterranean Diet, one rich in plant foods, fruits and vegetables, whole-grains, nuts, legumes and omega-3 fatty acids has great therapeutic benefit. The inclusion of a wholesome diet low in refined and processed food is loaded with antioxidants, vitamins, and minerals and supports lower blood sugar and insulin levels.

In addition to dietary education and whole food diet, the researchers propose the inclusion of micronutrient therapy within the inpatient drug and alcohol treatment setting. Functional medicine, part of the integrative medicine whole person approach, supports a nutritional assessment, and personalized laboratory testing to assess the nutrient deficiencies contributing to addiction. The research continues to show the neurobiological and neuropsychological connections to optimum health regarding brain circuitry, food, memory, and mood [30,31]. The etiology of addiction and years of data support the relationship between the optimization and balancing of key neurotransmitters manufactured in the brain's neuronal activity. These key homodynamic pathways that include dopamine, serotonin, opiods, GABA, and other neurotransmitter receptor sites, can be addressed with food, diet, and nutraceuticals functional medicine evaluation. This can address certain deficiencies such as foliate, B6, B12, low thyroid, brain and food allergies, autoimmune and gluten issues, mercury poisoning, blood sugar, hormone imbalance, and stress. The researchers recognize these global systemic problems as core issues regarding disease, depression, addiction, and obesity. Optimum physical and mental health need to be addressed in all our lives. The researchers could envision a major long-term cost savings to our world through holistic health education and maintenance.

Conclusion

Reflecting on the existing literature and personal application of food and nutrition principles, supporting evidence exists on the potential benefits and need for developing, integrating, and monitoring a food and nutrition plan for those in addiction, inpatient detoxification settings, and post-discharge care planning as core to the ongoing process. It is also apparent that more needs to be done in terms of awareness and education regarding food and nutrition as it relates to the various stakeholders in the recovery field including, but not limited to, clients, providers, policymakers, insurers, sponsors, and family members.

The researchers also recognize the need for ongoing education in this newly emerging field of lifestyle medicine. Nutrition addresses the major core imbalances and the way the brain functions and how decisions are made. As described in the literature summary, decades of research support the need for nutritional balance in enhancing one's psych-social, emotional, mental, and physical well-being to sustain sobriety. Although a main contributor to optimum recovery, diet and nutrition represent a partial component to an integral treatment care plan that needs to include other potential modalities such as stress reduction, manual therapies, energy medicine, and coaching. There needs to be a focus on engaged spirituality regarding meaning and purpose. From the researchers experience in addiction and recovery, the traditional ATC model and ongoing care outcomes can be enhanced through the addition of the above. Further research is needed in this area that includes a comprehensive approach to addiction and recovery. As part of this comprehensive approach, nutritional support is needed and should be included in care planning.

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