

Dietary and Lifestyle Practices of People Who Use Drugs

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Impact

This thesis explored the dietary and lifestyle parameters of an understudied population group in Lebanon: PWUD in treatment for recovery. Our results show that this population is susceptible to weight gain associated with the number of previous treatment attempts, duration of treatment, and pre-treatment BMI; in addition to food addiction, poor nutrition knowledge, physical inactivity, and poor sleep. Moreover, our findings highlight significant differences in the nutrition and lifestyle parameters between the two treatment modalities, i.e., rehabilitation and OST. Hence, our findings provide a baseline assessment of the nutrition and lifestyle habits of Lebanese PWUD undergoing treatment, and identify them as a group that is at risk of developing future chronic diseases should they continue to follow unhealthy lifestyle habits.

Given this, this thesis has several implications for research and practice.

Regarding scholars and scientists in Lebanon and abroad, we inform several directions for future research in the field of SUD. More research and funding should be invested in this population group as they exhibited unhealthy lifestyle behaviors posing them at high risk of future health problems adding to the burden of the health care system. Additionally, qualitative and quantitative studies should be carried out to gain more understanding of the different determinants of weight gain, poor sleep, low physical activity, and food addiction in each treatment modality separately, as patients exhibited different characteristics. Furthermore, longitudinal studies examining the implications of the weight gain as a long-term risk for chronic disease development and increasing risk of relapse are warranted. Moreover, the findings of these proposed studies can aid in designing evidence-based targeted health promotion programs to reduce risk of non-communicable disease. Finally, measuring the effectiveness of such programs in improving lifestyle and nutrition parameters on the long term is essential to determine the impact of the program in improving the health of PWUD in treatment specifically and public health in general.

In practice, we suggest targeting PWUD undergoing treatment for recovery with an appropriate primary intervention program. Such a program should focus on monitoring of weight gain, remediating food addiction, increasing nutrition knowledge, enhancing physical activity, and improving sleep. Moreover, this intervention program should also address smoking and alcohol abuse with the above-mentioned lifestyle parameters due to their detrimental effect on health (Glass et al., 2015; McKelvey et al., 2017), and improved substance use treatment outcomes when

treated (Myers et al., 2007). First, program administrators, health care providers, and patients and their families should be aware that these unhealthy lifestyle parameters increase the risk of chronic diseases. The results of this thesis should be disseminated among these parties to increase awareness about these issues. Second, these findings should also be propagated to the Ministries of Public Health and Social Affairs. The NGOs in Lebanon play an important role in combatting drug use and providing SUD treatment and prevention programs with limited resources available. Health promotion programs tackling unhealthy behaviors, proposed by this thesis, are lacking and are not a priority in treatment centers. Implementation of a health promotion program and providing primary health care initiatives and screening to PWUD in treatment have to be supported by national policies with a governmental key role. Third, we suggest using IM as a framework for the health promotion program as it is applied to guide behavior change interventions and health education development. This evidence-based approach, presented as a series of 6 steps in which we will elaborate further in this section, is a process that bridges the gap between theory and practice. With this in mind, IM ensures that the evidence-based health promotion program can be implemented in real-world settings.

Fortunately, PWUD in treatment centers are in a transition phase from a chaotic life to a disciplined one where they are gaining more autonomy over their choices in life, thus have a potential for positive behavior change enabling healthy habits (Cogswell & Negley, 2011; Zeldman et al., 2004). This stands true especially for people who voluntarily admitted themselves to treatment as this is a first step in making healthy choices opening a window for other lifestyle modifications. They are also at a stage in their life where their health behaviors can still impact their future health; therefore, supporting healthy habits through lifestyle interventions and health promotion programs at such a critical time, could be key to building a healthier population (Davies et al., 2015). Treatment rehabilitation centers are ideal institutions for such intervention programs since they provide the first steps towards lifestyle changes in all aspects under controlled professional support (Kelly et al., 2015). Moreover, they can be used as centers of research to develop, apply, and assess the effectiveness of evidence-based health promotion programs (Damschroder & Hagedorn, 2011). As for OST centers, implementation of such programs faces more challenges due to external factors in the patients' lives that are beyond the control of the health care providers. Auspiciously, we have found in the literature few examples where introduction of such programs have been

successful, particularly those that empower individuals by education and provide support for health improvement. (National Institutes of Health, 1999).

We suggest that the development of this health promotion program be based on the IM approach. IM follows the development of an intervention, mapping the path from recognition of a problem to the identification of a solution (Eldredge et al., 2016), and describes a protocol for the development of a theory and evidence-based intervention in six steps: 1) Needs assessment, 2) Identification of intervention objectives, 3) Selection of behavioral change models, 4) Designing an intervention program and piloting, 5) Implementation of the intervention program, and 6) Evaluation. This thesis informs the needs assessment (Step 1), defines intervention objectives (Step 2) which are necessary to implement an evidence-based intervention, and provides suggestions for future program evaluation (step 6).

Step 1: Needs assessment

Our results feed into the first step of the IM protocol: the needs assessment, in terms of: 1) assessing the nutritional status and dietary intake, nutrition knowledge, food addiction, and biochemical profiles, as well as sleep and physical activity of PWUD undergoing treatment for recovery in Lebanon, 2) exploring the major significant differences in these parameters between the offered treatment modalities, namely OST and rehabilitation, 3) examining the patterns and extent of weight change and explore the differences in these variables between people receiving OST and those undergoing rehabilitation, and 4) exploring the determinants of weight gain in this population group. Moreover, the needs assessment involved literature search and explored qualitatively these dietary and lifestyle practices of PWUD undergoing treatment in Lebanon and perceived benefits and pitfalls. This provided information on the issue barriers, facilitators, and recommendations for the development of an intervention program. The program goals and objectives were identified at the completion of the needs assessment.

Step 2: Intervention objectives

We identified the following objectives which should be addressed through future interventions:

- Raise awareness among treatment program administrators, health care providers, and patients and their families about the increased weight gain, inappropriate food intake, food addiction, poor nutrition knowledge, poor sleep, low physical activity of PWUD in treatment centers.
- Raise awareness about the impact of these disturbed lifestyle parameters on the development of future health diseases and risk of relapse and provide methods of screening.
- Promote healthy eating behaviors among PWUD in treatment by designing and providing daily healthy menus in treatment centers.
- Provide general nutrition education to all patients undergoing treatment in addition to individualized nutrition consultations by a dietitian to those in need.
- Provide a variety of individualized physical activity programs in treatment centers tailored to needs and tolerance of the participants.

Step 6: Evaluation

Suggestions for future evaluation of the outcomes achieved from the health promotion program:

- Monitoring weight change and anthropometric measurements across different intervals of the treatment by the health care providers.
- Longitudinal evaluation of biochemical parameters.
- Measuring physical activity participation among the participants.
- Monitoring sleep levels among the participants.
- Assessing the perceptions of the participants on the knowledge gained and changes implemented from the intervention, in addition to its usefulness and application with additional recommended changes by conducting focus group and in-depth interviews.

In the future, a thorough literature review should be conducted to choose the most appropriate behavioral change models (step 3), create program content and pilot it (step 4), implement it (step 5), and evaluate it to ensure its efficacy (step 6).

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