



The Impact of Wearable Activity Tracker in Weight Loss

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Abstract

Obesity has become one of the global health issues with increased incidence rate, characterized by excessive weight gain. Although it is identified as a chronic health issue, it can be prevented. Such chronic health issue is known to be associated with genetics, socio-economic status, and poor diet and lifestyle choices. In today's modern era, technology has a significant influence on changing an individual's lifestyle. Therefore, the use of wearable activity device tracker can be beneficial in weight loss, helping in proper weight management. These trackers play an important role in encouraging individual for regular exercises, gaining satisfaction by improved health.

Keyword: Wearable Activity Tracker; Wearable Technology; Obesity; Weight Loss

Introduction

Lack of physical exercises is identified as the fourth leading cause of mortality rate worldwide with 3.2 million cases of death each year [1]. According to the Centre for Disease Control (CDC), it has been reported that only 1 in 5 adult individuals are able to meet the guidelines provided for an adequate level of physical activities [2]. Such physical inactivity leads to the overweight and obese condition. Studies indicate a relatively high prevalence of obesity amongst the population which consequently leads to various health complications [3].

Effective interventions which can be beneficial in improving the diet and enhancing physical activities in the individuals are necessary to reduce the increasing prevalence of such chronic health condition [4]. In today's modern world, the role of technology has been integrated into each aspect of living. So, wearable activity trackers are small, simple, wireless trackers with a sensor integrated with an activity monitoring program. Designed to be worn by individuals and is part of an initiative to encourage physical activity and, potentially, weight reduction [3].

Moreover, a wide range of technologies is available which can promote physical exercises and weight management in people. Limited data is present which can emphasize on the use of wearable technologies [5]. Thus, this paper aims to highlight the impact of wearable activity tracker on weight loss, improving health.

Methods

For this review, the secondary qualitative approach is adapted in which already published secondary sources such as articles are selected from Google Scholar using specific keywords related to the topic. To gather updated and reliable information, the search was limited to only those articles that were published from 2016-2020 and written in the English language.

Results

Although available interventions can be influential for a short-term basis, the sustainability of weight management for the long-term is a challenge. To analyze the impact of wearable activity technologies, a study found that wearable

technologies have a significant influence in increasing the self-efficacy and physical awareness in the individuals. These technologies had been beneficial in setting their goals, providing tailored intervention to increase satisfaction and motivation in the individuals. Consequently, significant weight reduction was noted in the participants of the study [6].

However, a study had argued that wearable technology for weight reduction might have a negative impact on motivation. The results revealed that wearable activity trackers although increased motivational level in the participants but it was for short-term. Moreover, this motivation was generated by guilt, social competition, and pressure rather than satisfaction [2]. A randomized trial was conducted to highlight the significance of wearable activity technology for physicians. The findings indicated appropriate body composition in the overweight participants. Significant percentages of reduced "body fat" and increased "lean body mass" were observed in females and males respectively [5].

Based on the results of a study which was conducted to evaluate the impact of wearable "Physical Activity-Tracker (PA-T)", it had been suggested that combination of this tracker with the weight-loss program was effective in weight reduction. Therefore, the use of wearable tracker combined with a program can be successful for weight loss [1]. Evidence suggesting the efficacy of wearable activity trackers is rather contradictory in literature. It has been observed that such technology was not efficient in influencing the behavior of people towards physical activity and diet. Standard intervention with nutritional plan and exercise routine and enhanced intervention with wearable tracker showed no major difference in weight loss [4].

Use of smartphone-based wearable tracker had shown improved weight management and healthy lifestyle with decreased obesity. Furthermore, a significant decrease in body mass index (BMI) was examined in obese adolescents [3]. On the other hand, the application of heart rate watches in overweight participants to track heart rate and energy expenditure. The findings demonstrated that heart rate trackers were not influential in monitoring energy expenditure; therefore, their use as weight loss intervention is limited [7]. It has been highlighted that wearable fitness trackers facilitate communication with device users [8].

It has been recommended that wearable activity devices are "communicators" for physical exercise and increases physical awareness in the people [8]. The impact of wearable activity trackers can be analyzed by the evidence provided by a study assessing the app efficacy in wearable activity device. It has been evaluated that features incorporated in the activity app enhance autonomy, exercise outcomes, and

competence in the device users [9].

The features had an enhanced impact on the men and motivated them in the long-term sustainability of physical activities. Regardless of the contradictory results concerning the weight loss efficacy, it has been examined that commercialized market for wearable activity trackers has been growing. This has created various opportunities in the clinical setting for improved health promotion. It has been studied that these trackers have reliable accuracy in monitoring the activity and BMI, improving the overall wellbeing of the cancer survivors as well [10].

Discussion and Conclusion

Wearable activity trackers have gained increased attention due to its influential impact on the lifestyle, generating a positive attitude towards physical activities. Physical activities decrease the risk of obesity through weight loss. The review has highlighted mixed results regarding the impact of wearable activity trackers on weight loss amongst people. However, to achieve desired outcomes, it is recommended to determine the nature of the intervention and the type of tracker used. The review further revealed that wearable technology for physical activities has a positive influence on people, increasing the level of motivation and satisfaction to maintain long-term goals.

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