

Technological Innovations for the Treatment of Addictions

*María Judith López¹, Jaime Moscoso-Salazar², Valentina Ramos³ and
Carlos Ramos-Galarza^{1-4*}*

¹ *Facultad de Psicología, Pontificia Universidad Católica del Ecuador.
Av. 12 de Octubre y Roca, Quito-Ecuador.*

² *Carrera de Psicología, Universidad Internacional SEK Ecuador. Calle
Alberto Einstein s/n y 5ta. Transversal. Quito-Ecuador. Quito-Ecuador.*

³ *Sistemas de Información, Gestión de la Tecnología e Innovación (SIGTI-
Research Group), Escuela Politécnica Nacional, Ecuador.*

⁴ *Mechatronics and Interactive Systems Research Center (MIST)/Carrera de
Psicología, Universidad Tecnológica Indoamérica. Av. Machala y
Sabanilla, Quito-Ecuador.*

ABSTRACT

Addictions are part of psychopathological disorders. They encompass an obsessive behavior towards the consumption of psychotropic substances, activities, or relations. In the psychological treatment of these issues, procedures based on behavioral and cognitive behavioral techniques are applied through the traditional approach during

sessions. The development of mobile apps for smartphones has resulted in a relevant contribution to the treatment of addictions and therefore a series of technological innovations are currently available to aid the clinical work within this context. This article reviews the main apps developed for this purpose.

Keywords: addictions, psychological treatment, technological innovation, drug addiction, alcoholism.

INTRODUCTION

According to the World Health Organization (WHO) (Panamerican Health Organization, 2005), addictions are physical and psycho-emotional diseases which create a dependency or necessity towards a substance, activity, or relation. Addictions, seen as a disease, have come to constitute a global pandemic which have affected social and public health spheres in multiple countries worldwide, with drastic effects without regard for socioeconomic class, age, gender, ethnicity or culture (Nizama, 2015). Likewise, the term “addiction” is considered a debilitating disorder with a relentless progression, since it is extremely difficult to interrupt or modify the consumption of the substance, activity or relation by sheer will alone (World Health Organization, 2008). It is worth noting that in 1964, a WHO expert panel introduced the term “dependency” as a substitute for “addiction” and “habituation”; since then, as a general rule, the term may be applied to refer to the entire spectrum of psychoactive substances, or to refer to a particular drug or type of drug (World Health Organization, 2008).

The UNODC World Drug Report 2020 (UNODC, 2021) determined that, based on the United Nations Information Service, as of June 26, 2020, over 35 million people were suffering drug use disorders. This report also analyzed the impact of COVID-19 on drug markets where a drug scarcity has arisen due to border restrictions in cities throughout the world. To avoid an abstinence crisis, consumers have increased the use of more economical substances to substitute their preferred substance or have turned to crimes such as robbery to afford their habit (UNODC, 2021). Furthermore, the rise of unemployment and the decrease of opportunities affected persons in situations of higher poverty, making them even more vulnerable to the consumption of drugs and other crimes.

As previously mentioned, the ample sphere of addiction disorders comprises substance addiction and addictions to activities or behaviors, all of them with the common element of loss of control over the addictive habit. The central issue is not only the short-term effects, such as the gratification from psychoactive substances, secondary gains from the habit, or the necessity of avoiding reality, among others, but also the medium and long-term effects, which alter the social, labor, academic, and family spheres, and even life itself, in regards of health and functionality.

Currently, different therapeutic and medical approaches exist which have stood out

due to their theoretical conceptualization to explain and treat addiction disorders. Although each of these have made complex and interesting contributions to the analysis of an explanation for addiction phenomena, none of them have managed to offer a unique, true solution to face this problem. On the contrary, diverse techniques and practices have arisen, which have been operative and functional for different populations with different addictions (Becoña et al., 2010). Behavioral and cognitive behavioral therapies have been used the most in the treatment of addiction disorders due to their fast efficiency and because they are the ones with the most empiric support (Becoña et al., 2010). The combination of cognitive behavioral therapy with other psychological (family therapy, group therapy and analytic therapy) or pharmacological techniques is more efficient than each one of the individual or separate components applied on their own.

Likewise, the existence of addictions to new technologies, such as those derived from electronic devices, generally videogames and mobile apps, can also be ascertained. It is worth noting that there is a lack of opportunities surrounding new technologies as promoters in the prevention or treatment of addictions, or as generators of treatment plans for technology addiction by using the same so-called smart tools. During the last decades of technological development, it has become evident that devices have a great educational and communicational use, and that they may constitute ways to exercise freedom of expression. Therefore, the continuous creation of apps coherently linked to possible psychological or pharmacological treatments for consumers has become necessary, and that is why this article carries out a review of the main smartphone technologic apps that seek to treat addictions.

MOBILE APPS FOR THE TREATMENT OF ADDICTIONS

Below, certain mobile apps that exist for the treatment of addictions will be listed.

Apps for treating phone addiction

Checky- Phone Habit Tracker (Calm.com, 2021) is an app that allows users to know how many times a day they check their phone and allows to plan a routine change. Forest (SEEKRTECH, 2021) is an app that improves concentration and productivity with a simple and interesting game. The game is keeping the app open and planting a seed; while the user remains in the app, the seed grows, turning into a tree, but if the user enters other entertainment or social networks apps, the tree will not grow (Fig. 1).

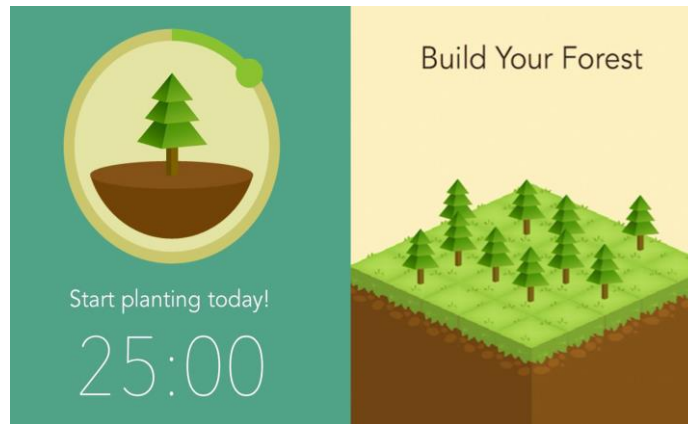


Fig. 1. Forest mobile app screenshot

Apps for treating drug addiction

KnowDrugs (Kreicarek, 2021) is an app which lists counseling services, drug consumption analysis, as well as emergency plans for overdosing and learning tools for risk reduction and safer use. Drug Addiction Calendar (App Diggity, 2021) is an app that allows users to track their consumption process. It contains an economic calendar which shows the money saved from not consuming drugs. It also has a panic button which calls a contact added by the user, motivational phrases and scientific facts that explain the benefit of quitting drugs, and other similar information (Fig.2).



Fig. 2. Drug Addiction Calendar mobile app screenshot

Apps for treating tobacco addiction

Smoking cessation (Unzhakova, 2021) is an app that sends audio messages with positive affirmations on the benefit of quitting tobacco. I'm going to quit you (HEALTHCARE MEDICAL SUPPORT S.L., 2021) is an app aimed at the cessation of tobacco consumption through videoconferences with a team of professionals offering the necessary support to begin the process, tackling anxiety states, access to solutions, and accessibility to medical professionals (Fig.3).



Fig. 3. I'm going to quit you mobile app screenshot

Apps for treating sex addiction

Porn addiction-quit (Diggity, 2021) is an app that uses a counter to track progress to record how much money and times has been saved from not consuming porn, as well as distractors and rewards for not watching it. Reboot: Quit Pornography Now (Tinybiohacks Private Limited, 2021) is an app that allows the user to plan out their pornography abstinence through scientific data, daily checks on consumption, motivational phrases, and distractors such as meditation, exercise, warm showers, readings, etc.



Fig. 4. Reboot: Quit Pornography Now mobile app screenshot

Apps for treating alcohol consumption

Easy Quit (Herzberg, 2020) is an app that helps the user break away from alcohol consumption through scientific health statistics, showing how much money they have saved, motivational badges, and other features. I Am Sober (Sober_LLC., 2021) is an app that allows the user to verify how many days they have been sober, shows daily promises and checks, analyzes triggers, logs achievements and an abstinence timeline, among other features (Fig.5).

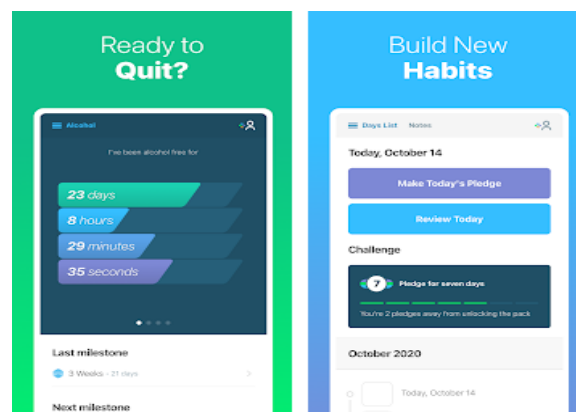


Fig. 5. I Am Sober mobile app screenshot

CONCLUSIONS

As mentioned before, addictions are classified as psychopathological disorders that create physical and psycho-emotional diseases which create a dependency or necessity towards a substance, activity, or relation. Therefore, there currently exist a series of theoretical and technological proposals which contribute to clinical work as solutions both to decrease and withdraw from addictions.

The review carried out began describing the mobile apps centered on phone addiction treatment such as Checky-Phone Habit Tracker and Forest. Both apps are focused on allowing its users to recognize how much time is spent on their phone, creating awareness of the time dedicated to it. Afterward, apps centered on drug consumption treatment were described, such as KnowDrugs and Addiction Calendar, which allow the user to generate self-help tools to face addiction, as well as economic savings tracking, emergency plans, and other features.

Next, apps aimed at treating tobacco addiction were described, such as Smoking Cessation and Te voy a dejar; these apps allow the user to begin a tobacco withdrawal process through counseling and positive affirmations. Then, apps aimed at treating sex addiction, such as Addición al porno-dejar and Reboot: Quit Pornography were described. Both apps allow the user to keep tabs on their progress regarding addiction, money saved, withdrawal planning, motivational phrases, etc. Finally, apps created to treat alcohol consumption were described, such as Easy Quit and I Am Sober, which are aimed at breaking away from the alcohol consumption habit (Ramos-Galarza C J.-G. J.-G., 2018; Ramos-Galarza, 2016; Ramos-Galarza C P.-S. C., 2021).

As a future research line, two objectives are raised. The first one deals with the development of technological apps to treat addictions that are valid for the reality of patients living in the Latin American context. The second objective is to verify the contribution of each of the aforementioned apps through experimental studies with pre- and post-test measurements, that allow to discern the contribution of these technological apps.

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