Evaluating user perceptions of an e-Health intervention for cannabis use: Focus Group Study

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Abstract

Background: Cannabis is the most used illicit drug and admissions for cannabis use disorders (CUDs) are rising worldwide, posing a significant public health problem. Despite its negative consequences, an important number of problematic users do not access treatment. Digital health interventions (DHIs) have spread over the past two decades, as they are easily accessible and cost-effective solutions. CANreduce is one of the eHealth interventions that has proven effective in reducing cannabis use (CU), although it exhibited suboptimal adherence rates.

Objective: This study aims to enhance the effectiveness, adherence, and user experience of the Spanish version of CANreduce 2.0, by using focus groups (FGs), in the context of a patient-centered design approach that engages both patients and clinicians.

Methods: Separate FGs were conducted for users and clinicians with a total of 10 participants. Each session was facilitated by two interviewers and conducted remotely via Zoom using a semi-structured script that allowed to discuss user's perspectives on specific topics related to the acceptability, usability and utility of the DHI. A qualitative analysis of the transcripts was conducted using MAXQDA software. Content analysis methodology was used to identify and define themes that captured essential topics of interest from the data gathered.

Results: Codes identified in the qualitative analysis were categorized into 3 main themes: "motivation and awareness," "guidance and use," and "content and design". Strengths and deficiencies of the intervention, as well as outlines on how to address them, were identified for each theme. The main findings highlighted the suitability of CANreduce 2.0 as a complement to in-person therapy serving as an educational and monitoring tool. Additionally, the importance of notifications, gamification, and personalization to was emphasized to enhance motivation and adherence.

Conclusions: This study highlights the complexity of designing effective DHIs for CU. Personalization, robust motivational strategies, and an interactive design are crucial for the process' success. Collaboration between technology developers, healthcare professionals, and patients should be in the center of developing DHIs, with user perspectives being key to reaching practical and effective solutions.

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Keywords:
addiction; cannabis; drug use disorder; eHealth; digital health intervention; qualitative research; focus groups; user-centered design; patient-centered intervention

Introduction

Cannabis is the most used drug worldwide, posing a significant problem due to its negative effects on users' well-being, and its broader impact on public health. According to the latest report from the United Nations Office on Drugs and Crime [1], in 2022 around 228 million people had consumed cannabis during the previous 12 months, with many countries indicating a sustained increase in the prevalence of cannabis use (CU), number of hospitalizations, and diagnosed psychiatric disorders related to CU.

In Spain, cannabis is the illicit substance with the highest prevalence rates, especially among the younger population; the latest data estimates that 19.1% of individuals under 35 years old [2], and 21.8% of students aged 14 to 18 used cannabis in the past year, with the average age of initiation being 15 years old [3]. The National Strategy on Addictions [4] places special emphasis on the normalization of CU among youth, and the problem this entails, given that early onset correlates not only with an increased risk of developing cannabis use disorder (CUD), but also with other mental health pathologies. Moreover, early use is also associated with academic and occupational difficulties [1], involvement in conflicts, fights, or physical aggression [3,5], and engagement in risky sexual behaviors [3,6].

As a result, the total number of admissions for CU treatment is on the rise [2,7], accounting for 93.7% of individuals under 18 years old initiating treatment for illicit drug use in Spain [2]. Spain has a well-established, extensive, diversified, and accessible network for addressing drug-related issues. Among the available treatments, motivational interviewing and cognitive-behavioral therapies (CBTs) have proven effective in managing substance use disorders (SUDs), as therapeutic and psychoeducational strategies [8,9,10], both in-person and digitally [11,12].

However, despite the availability and variety of treatments, a significant proportion of problematic cannabis users do not access the network, often due to social stigma, shame, lack of time, or the belief that they can regulate consumption on their own [13,14]. This issue is particularly acute among the younger population, who not only access treatment less frequently, but also exhibit lower adherence rates [15].

Technological progress in the 21st century is driving the digitalization of everyday life, with screens becoming the preferred method of communication and self-expression for the majority of young people [16]. To address this new reality, the development of mobile applications and internet-based interventions for health promotion and treatment have experienced continuous growth over the past two decades, as they can serve patients as easily accessible and cost-effective solutions, empowering them to take control of their healthcare journey [17]. With regard to mental health and SUDs, these tools can serve as (1) adjuncts to clinical care and (2) strategies for health promotion, increasing approachability to treatment.

Multiple meta-analyses have examined the use of digital health interventions (DHIs) for addressing SUDs [18], and CUDs in particular [15,19,20,21,22]. Evidence from these studies demonstrates a favorable, yet modest, effect of using digital health strategies, with a greater effect for prevention programs compared to intervention programs, and both approaches presenting a lower impact than that of face-to-face interventions [19], therefore recommending to develop strategies that integrate both modalities [10,21,22].

CANreduce is one of the eHealth tools that has proven effective in reducing CU. It is a minimally guided internet-based self-help intervention developed by Dr. Schaub et al [23], and it has been certified as safe by the European Union, being considered a medical device under directives 93/42/EWG and 2007/47/EWG. This interactive online platform consists of 8 modules, designed to be completed over 6 weeks, and combines CBT strategies, motivational interviewing, and immediate ecological interventions.

In 2015, the first version of the application demonstrated being an effective alternative to face-to-face treatment, although it exhibited suboptimal adherence rates [23]. Despite the flexibility DHIs offer, as they may be tailored to meet individual user needs, poor adherence remains a prevalent issue with this kind of tool [17,24]. Some of the solutions that have been shown to effectively solve this

problem and enhance adherence to digital treatments [25], particularly for CU [20], include incorporating support from a mental health professional or coach [26], and the use of participation reminders [27].

Following the principles of Adherence-Focused Guidance [28], CANreduce 2.0 was developed and tested with a subsequent clinical trial. This new edition incorporated support from an “e-Coach” or a team without a specific reference individual, with both interventions being equally effective in reducing the frequency of CU and mental health symptoms [29]. In 2022, this application was adapted to Spanish and validated for use within the Spanish population. Data from the corresponding clinical trial is currently being analyzed [30]. The adjustments included adding videos from Laura, the Spanish e-coach, and 6 characters of different ages, genres and backgrounds exemplifying different situations of cannabis abuse and dependence along the modules.

The World Health Organization has emphasized the importance of employing a user-centered design for developing digital tools, noting that most people do not re-engage with an application if they are not initially attracted to it [31]. Previous research has demonstrated that patients will only use new technologies if they are relevant to their health problems, attractive, easy to use, and effective in facilitating behavior change [17]. Increasing patient involvement in the design of DHIs is essential for developing relevant, usable, and effective solutions, and has been associated with greater acceptability and motivation for use [32,33], thus improving user experience and perceived value of the tool [34].

The patient-centered design is a multi-phase process that includes conducting focus groups (FGs) or interviews with users, modifying designs and content based on qualitative findings, and continuously repeating these steps with additional groups of patients and clinicians [17,34,35]. Qualitative methods provide in-depth evaluation by revealing attitudes, perceptions, and beliefs that mediate interaction with the tool, as well as assessing user needs and preferences regarding interface and usability [36,37].

A co-design approach that includes patients significantly impacts health outcomes and offers numerous benefits in terms of adherence, fidelity, and reach of the digital tools [38]. It also provides a broader range of ideas and improves its usability [39,40], enhancing user satisfaction, support, and enthusiasm for innovation, decision-making efficiency, and the patient-clinician relationship [17,34].

This study aims to improve the effectiveness, adherence, and user experience of the Spanish version of CANreduce 2.0 by using a patient-centered design approach. This study comprises the initial phase of a larger research project, and its findings on user perspectives will be incorporated in further stages, in order to enhance the development of a DHI for CU treatment.

Methods

Recruitment

Discussion groups were conducted separately for users and professionals. The clinician group (n=4) comprised mental health and addiction professionals experienced in using digital tools, who were also members of the Primary Care Network for Addictions (RIAPAd) involved in promoting the CANreduce 2.0 improvement study for future implementation in addiction treatment centers. As for

users (n=6), half of them were individuals who had registered on the platform within the last 2 years, and the other half were active cannabis users who were attending treatment for the first time and started using the application prior to the FG.

Each FG session was facilitated by 2 interviewers and conducted remotely via Zoom. The audio was recorded to facilitate the transcription of the sessions, with the participants' names not being included in order to ensure confidentiality.
As compensation, all attendees received a 15-euro Amazon voucher.

Focus group interviews

The categories to be evaluated during the participatory groups were determined through a deductive analysis of usability guidelines focused on user-centered design, and a review of scientific literature on digital health applications. Special consideration was given to strategies for motivating change [41,42].

The FGs aimed to elicit expert and participant feedback on both the content and form of the application (interface and materials), as well as the utility of the intervention (assessment of usage and experience). Specific objectives were established: defining the target population of the platform, clarifying the specific purposes of its use, updating and enriching available content, optimizing interface design, and promoting user motivation and adherence. Based on these objectives, a series of questions were formulated, with slight adaptations in each session depending on whether the participants were professionals or users. Semi-structured interview scripts were used, allowing for the inclusion of emerging questions relevant to the stated objectives. Interview guides for the professionals and users' groups can be found in Multimedia Appendix 1 and Multimedia Appendix 2 respectively, with both having been translated from Spanish to English for publication purposes.

Each of the FG sessions had a duration of approximately 90 minutes. At the beginning of each session, essential ethical considerations such as confidentiality and voluntary participation were addressed, ensuring the integrity of the process.

Statistical Analysis

The qualitative analysis of the transcriptions from the FGs was conducted using MAXQDA, a software that allowed systematically coding and analyzing textual data from user's transcripts. The software's coding functionality was employed to assign segments of the text to various codes, representing different themes relevant to the research.

This analysis falls under the framework of content analysis, a methodological approach that involves identifying and defining categories or codes that capture the essential topics of interest. This allowed researchers to efficiently manage qualitative data, ensuring that the findings were grounded in the participants' experiences and perspectives.

Results

Demographics

The professional FG consisted of 2 men and 2 women with higher education and an average age of 37.25 years (SD: 1.71). Half of them were psychologists (n=2) and the other half were doctors (n=2),

and they worked in the detoxification hospitalization unit (n=1), the outpatient addiction center (n=2), and the acute psychiatric hospitalization unit (n=1).
Regarding users (n=6), the 3 participants who had received online treatment through the platform were Spanish women, 2 of them with technical training, and the third with higher education. As for new users (n=3), all of them were Spanish men with higher education. The mean age of users (n=6) was 31.8 years (SD: 4.1).

Finally, both users and professionals had owned smartphones for more than 10 years (except for 1 professional who had owned them for 7 years), and all of them possessed 1 or more electronic devices such as laptops or tablets.

Themes

The codes identified in the qualitative analysis of the transcripts were categorized into 3 main themes: "motivation and awareness," "guidance and use", and "content and design", each containing specific subcodes. For "motivation and awareness", the subcodes included “user age”, “motivation”, “problem awareness” and “economic awareness”. Within "guidance and use", the subcodes comprised “virtual treatment” (further divided into “in favor” and “against”), virtual support from Laura (subdivided into “in favor”, “against” and the importance of the “therapist's gender” on the platform), and “complement to in-person therapy” (with “in favor” and “against” subcategories). For the "content and design" theme, the subcodes identified were “application”, “notifications”, “information”, “small achievements and gamification”, and availability of “personalized content”.

A comprehensive scheme of all the codes can be found in Multimedia Appendix 3. The transcription of participant responses, organized by the aforementioned codes, is available in Multimedia Appendix 4. Codes, themes and transcriptions were translated into English from Spanish solely for publication purposes.

Motivation and awareness

User age

Users: opinions on the platform’s target population's age were mixed. Some argued that it seemed more suitable for young people due to its online format and focus on less invasive treatment methods, which could make it more appealing to those who have yet to perceive the severity of their consumption habits. Others believed the platform to be more appropriate for adults over 30 years old, who are more likely to be aware of their behavior and the consequences of CU.

Professionals: They mentioned that the content aimed to represent the experiences of young people, although they noted some "slightly uncomfortable" comments that "could be considered sexist."

Motivation

Users: participants emphasized the importance of self-motivation for the success of the platform, highlighting that without genuine commitment to reducing or ceasing CU, the tools provided might be ineffective. Some users attributed this to the inherent characteristics of the application, which they perceived as resemblant to those of an "online course" or a "control tool".

Professionals: professionals expressed the need for the platform to be further aligned with the user's

individual goals, as they noted the tool might not be particularly effective in modifying the user's stage of change, especially when there is ambivalence. To address this, they suggested implementing "an initial survey or questionnaire to understand the user's profile" in order to tailor the application more precisely to individual objectives.

Problem awareness

Users: users acknowledged the platform's effectiveness in enhancing awareness regarding cannabis consumption, helping them identify key moments in the change process, register the frequency and quantity of their CU, and understand their relevance in daily life. They perceived the activities provided allowed them to "name their feelings" and, by "seeing themselves represented", it made them "more aware of their problem". Users acknowledged that by stating their habits, they were enabled to "reconsider" them and label them as problematic. The character's testimonies and the registers were recognized as facilitators, and the module about managing craving symptoms was mentioned as particularly helpful.

Economic awareness

Users: users noted the significant motivational role of visualizing the economic impact of their cannabis consumption. They found that the platform lacks this functionality and suggested incorporating tools to calculate their cannabis-related expenditures.

Guidance and Use

Virtual treatment

In favor: users and professionals identified several benefits of virtual treatment, such as allowing for more intimacy and accessibility, particularly for new users or those with moderate cannabis consumption. They noted that the platform allows anonymity, providing a more "private" approach to cannabis abuse. Some professionals found the virtual treatment better as a first approach, but others emphasized that the platform's modules seemed to be designed to cover "both ends of the consumption spectrum", targeting individuals with SUDs as well as those engaging in recreational use and that it could be used as a support tool in the maintenance stage.

Against: Some users and professionals raised concerns about virtual treatment lacking the warmth and personalization inherent to in-person interactions, which may be essential for users with severe CU. Professionals argued that DHIs "cannot encompass the full scope of work conducted in face-to-face therapy" and warned of the risk that users might "become frustrated if they fail to reduce their use", potentially leading them to desist from seeking in-person help. Specifically, they noted that the platform may not be effective for patients with higher dependency consumption patterns or dual pathology.

Virtual support from Laura

Therapist gender: some users mentioned that women tend to be more associated with caregiving roles, and that having a female therapist as a guide in the application could be better "from a marketing point of view".

In favor: many users found the presence of a humanized name and persona on the platform valuable, improving engagement and providing a sense of individualized support. They highlighted the importance of "being able to talk to a person or feeling that someone is answering" and expressed a

desire for additional features such as a forum or chat to facilitate real-time dialogue, "being able to contact someone directly", or having "Laura personally write to them" to check on their progress with the treatment.

Against: on the contrary, some users felt that they "do not need anyone to check on their progress". Simultaneously, it was stated that the online format, including Laura's support, remains overly impersonal, as some participants found text messages and online assistance to be inherently "cold".

Complement to in-person therapy

Users: users considered the platform to be a "starting point for seeking help", a useful resource that can work well as a complement to in-person therapy. They noted that having access to information about cannabis and recording an intake log could optimize in-person sessions with professionals, by allowing more time to address "individual and personalized" concerns. They emphasized the importance of professionals having access to the information registered on the platform for this to be effective, and to ensure continuity and efficacy in the treatment.

Professionals: professionals regarded the platform as a complement rather than a substitute for in-person therapy, recommending its use as an educational and monitoring tool. They noted its potential utility for users on waiting list for therapy and acknowledged its value in primary care and various disciplines, such as social work and nursing. For these professionals, the data provided by the platform could be very beneficial, either by " providing the patient with more information to work on their awareness" or by using the information registered by the patient as a "support tool". However, they noted that it currently lacks information on local resources where users can seek further help, which could enhance its effectiveness as a complementary tool.

Content and design

Application

Users: users emphasized the difficulty in visualizing the application on mobile devices. They expressed a preference for an app with personalized notifications and tracking features to improve interaction and usability. They mentioned the possibility of receiving "feedback" as a desirable feature.

Professionals: professionals suggested that adapting the platform to a mobile application could significantly improve adherence and facilitate regular access.

Notifications

Users: opinions on the utility of notifications varied among users. Some mentioned that receiving notifications from applications is common and that they could serve as reminders to encourage use and improve adherence. On the contrary, other users believed notifications should be optional, as one user described that they felt "like homework for children". There was no consensus on the preferred frequency of notifications.

Professionals: professionals suggested allowing users to customize the frequency and type of notifications to increase their usefulness and prevent boredom or annoyance. They also noted that notifications could provide valuable information on how to access alternative forms of treatment, further integrating the virtual platform to in-person care.

Information

Users: users appreciated the information provided but noted that it was occasionally too "dense", with this leading to "boredom". They suggested that using more interactive and visual formats, such as videos instead of text, and reducing "technical jargon", could be beneficial. While some users spoke positively about using characters to illustrate CU experiences, others felt these did not accurately represent their particular situations. They recommended including more information on the negative consequences of CU, stress and anxiety management, improving the visualization of consumption graphs, adding a search function for quick access to specific information, and incorporating a “panic button” to remind them of their personal goals while in moments of craving.

Professionals: Professionals found the information to be well-written and accessible but agreed with users that it could benefit from being more dynamic and visual. They also convened on the importance of facilitating navigation to easily access the most relevant content, for example by adding a search box for specific terms and topics.

Small achievements and gamification

Users: users indicated that incorporating gamification elements could enhance the platform's appeal and motivational impact. They found the forms somewhat boring, with one user noting, "it feels like the platform is an educational course". They also suggested the possibility of receiving encouraging messages that acknowledge their progress or the improvements in their health status.

Professionals: professionals suggested implementing progressive goals and rewards to foster user engagement and satisfaction. There was a lack of consensus on whether modules should be unlocked sequentially as users advance.

Personalized content

Users: users expressed a strong preference for more personalized content, tailored to their individual situations and needs, which they believe would make the platform more relevant and effective. They pointed out the usefulness of sections for recording personal "excuses" and setting their own goals.

Professionals: professionals stressed the need to customize the content to align it with the users' stages of the change process and their personal goals. They also suggested simplifying content according to the users' cognitive or attentional capacities to ensure accessibility and comprehension.

Overview of Research Findings to Define Next Steps

With the aim of incorporating users' suggestions into the application, specific recommendations were collected based on each code and its subcodes (Textbox 1). Prospectively in the development process, these ideas will be integrated to ensure the resultant DHI is user-centered.

Textbox 1. Recommendations based on qualitative results.

Motivation and Awareness

- User age: personalize according to life stages.
- Problem awareness: adjust to the level of self-consciousness, including specific information for the precontemplation stage. It could be set with an initial user profile survey.

- Motivation: include reward systems and more information about the negative consequences of cannabis use.
- Economic awareness: add functionalities to visualize the economic and social costs of consumption. It could be used as part of the gamification function.

Guidance and Use

- Virtual treatment: include a forum or chat to facilitate real-time dialogue.
- Virtual support from Laura: personalize interaction.
- Complement to face-to-face therapy: implement its use with patients in waiting lists for therapy and in primary care, particularly with disciplines like social work and nursing. Allow and promote professionals access to the information registered by their patients.

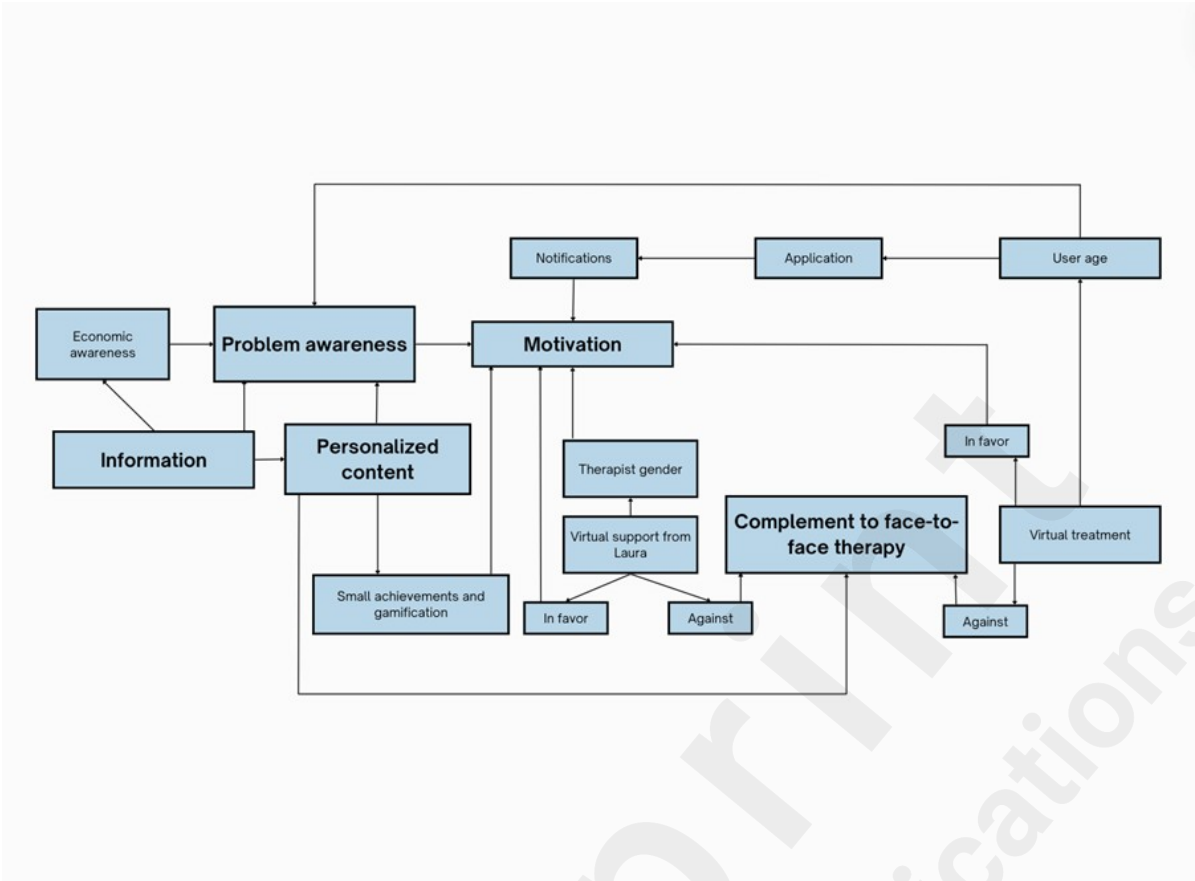
Content and Design

- Application: improve usability in smartphones, introduce interactive content (improve form design, introduce a search box).
- Notifications: implement notifications as reminders and motivational messages, allowing users to choose to receive them or not, the type of notifications and the frequency.
- Information: replace part of the text-based content with videos or other visual formats. Include a panic button to be used during cravings, to give quick access to personal reminders of self goals, pro/cons or benefits expected.
- Small achievements and gamification: add motivational messages, incorporate progressive goals, show health benefits of the goals achieved.
- Personalized content: tailor the content to meet users' needs, goals, and capabilities.

To further guide the future usability and adherence enhancing process, a relational schema of key themes was developed to illustrate the interconnections and dynamics between codes identified in the analysis (Figure 1). It seeks to visualize how codes interact and influence each other, highlight emerging patterns, and support the interpretation of qualitative data. Additionally, it provides a basis for generating new hypotheses for future studies.

The relational schema of codes was developed through a rigorous qualitative analysis process of the FG transcripts. Initially, a detailed transcription of all sessions was carried out, followed by the coding of meaning units. The resulting codes were grouped into broad themes that represented related concepts. Subsequently, the relationships between these codes were analyzed using concept mapping techniques. The final schema was validated by subject matter experts.

Figure 1. Key themes for increasing usability and adherence in CANreduce 2.0.



Discussion

Principal Results

This study evaluates the perceptions of users and professionals regarding the utility and effectiveness of CANreduce 2.0, as well as their suggestions to improve its usability and therefore the adherence to online treatment.

Regarding the main themes evaluated in the FGs, some conclusions may be drawn from the results obtained. First, it was found that both users and professionals agreed that CANreduce 2.0 could serve as a highly beneficial complement to in-person therapy. Secondly, most participants emphasized that the information provided in the modules significantly increased problem awareness and, as a consequence, sustained motivation to quit or reduce CU. And finally, in order to improve adherence to virtual treatment, suggestions from both users and professionals included sending notifications, incorporating gamification elements, and the ability to personalize and adapt the application to each user.

Motivation and awareness

The findings show significant discrepancies in perceptions regarding the optimal age for using the platform. Some users perceived the digital format as more suitable for younger individuals, while others thought that middle-aged adults, who may exhibit greater insight on their consumption habits, could derive more benefit from it. Although it is generally assumed that DHIs will be preferred by the younger population, research results are yet to be conclusive [43]; in studies on web-based interventions, the recruited population is generally older than those typically treated in specialized

addiction centers [44] and dropout rates are higher among younger individuals [45]. As further investigation is made on this matter, it is proposed to adapt the intervention to allow for the personalization of modules and support features tailored to specific life stages, maturity and self-awareness levels, ensuring that each age group finds the tool both relevant and effective.

Regarding motivation and problem awareness, it is noteworthy that during the recruitment for the CANreduce 2.0 study, the Google search advertisement appeared more than 250 times per day with an average of 19.6 people clicking on the link to the application. With the rising demand for CU treatment [2,7], and the fact that many individuals still don't have access to it [15], a freely available tool that can be found with a simple internet search could become a most valuable resource for those seeking help with their consumption, and unable or unwilling to engage in traditional interventions. Digital tools offer many benefits, including anonymity, continuous availability, no need for physical travel, and rapid accessibility [15,26], which was mentioned in the FGs as a significant advantage of digital health treatments, and particularly for CANreduce 2.0.

As for motivation, both users and professionals identified it as a crucial factor for achieving changes in consumption patterns. Interviewed professionals suggested that CANreduce 2.0 is suitable for people in both active consumption and maintenance phases of abstinence, although it might be less effective when the user is still ambivalent, consequently proposing the inclusion of information specific for individuals in the precontemplation stage.

The first step in addressing a SUD is for the individual to become aware of their problematic behavior and consider making a change. Users acknowledged that the tool is effective in assessing their CU, raising awareness of its health consequences, and recording instances of excessive consumption, which could positively impact self-efficacy [46]. However, results also underscored the necessity of integrating further strategies that foster continuous and meaningful motivation. Proposed features for integration included a reward or incentive system to reinforce progress, additional information regarding negative consequences of CU and withdrawal syndrome, and functions that allow users to visualize the economic and social costs of their consumption, potentially through simulations or interactive expense calculators.

Guidance and use

There is substantial evidence demonstrating the impact of mental health applications on the general population, including those who do not exhibit symptoms. These applications have shown potential as cost-effective, accessible and low-intensity intervention providers for individuals who are unable or unwilling to receive standard treatment [25]. However, adherence to treatment remains a significant challenge in digital mental health and addiction interventions [47]. Evidence suggests that one strategy to overcome this is providing user-centered guidance.

The randomized clinical trial of CANReduce 2.0 conducted with the Swiss population demonstrated the application's efficacy in reducing the frequency of use, severity of dependence, and anxiety symptoms. However, it did not find significant differences between support provided by a personalized figure, and that offered by a non-individualized support team [29].

To thoroughly examine these findings, study participants were asked about their experiences and perceptions regarding the virtual support provided by Laura, the therapist integrated into the treatment process through introductory videos for each module and direct messaging. The opinions were diverse. Participants who advocated for virtual assistance highlighted the importance of "humanizing" support, suggesting that the presence of a forum or a space for more personalized

accompaniment could be beneficial. These participants indicated that personalized interaction, even in a virtual format, fostered a sense of connection and support. On the other hand, some participants expressed a lack of interest in virtual interaction, preferring not to engage in this type of communication. Professionals shared this viewpoint, criticizing virtual support as impersonal and advocating for in-person accompaniment, which they believed provides a more effective and empathetic form of support.

In spite of these perceptions, "Dr. Google" and "ChatGPT" are among the most frequently used tools for medical and treatment inquiries, with people becoming increasingly familiar with their use [48,49,50]. Mental health applications are often accessed through internet searches and social media [51], which poses certain risks, given the generally poor quality of information available online [52], and the subjective and biased nature of its evaluation [53,54].

Among the interviewed user groups, there was substantial support for using the platform as a virtual treatment. They recognized its potential use as an ecological intervention, as well as its advantages in providing an accessible and flexible treatment option. Professionals, however, expressed reservations regarding the application’s effectiveness as a standalone device, particularly for individuals with severe dependence or dual disorders. Despite evidence suggesting that individuals with more severe symptoms are more likely to complete such treatments [55], professionals questioned the adequacy of the application for these cases. Nonetheless, both users and professionals acknowledged the platform’s potential utility as an adjunct to in-person therapy. With its educational and monitoring features, the information provided could turn it into an effective support tool for any professional. This perspective is supported by existing evidence showing that DHIs can enhance treatment effectiveness and support abstinence [56,57]. Integrating the platform with traditional therapy could leverage its strengths in providing ongoing support and monitoring, while ensuring comprehensive care for individuals with more complex needs.

Content and design

The CANreduce 2.0 application implements a program based on motivational interviewing and CBT. This approach aims to raise disorder awareness, confront users with their consumption problem, and encourage a commitment to modify their CU patterns. This combination of methods and modular organization aligns with existing evidence that applications with such designs demonstrate greater effectiveness [29].

The proposal to register CU habits was well received by FG participants, both users and professionals. This feature was noted for its utility in patient monitoring and has been shown to impact the promotion of positive behaviors and reduction of negative ones [58]. Furthermore, incorporating elements of gamification and small achievements was also suggested to boost user motivation and engagement, as these elements could provide additional incentives for users to remain committed to their treatment and actively engage with the platform's resources.

A limitation of this DHI, as mentioned during FG discussions, is its lack of adaptation to each user's unique case. The customization of digital applications for health-related work, in terms of usability, remains an underexplored area, in contrast to other digital applications with more commercial objectives [37]. User-centered designs involve not only the aesthetic part or the usage dynamics of the application, but also the adaptation to the demographic characteristics of the target population and even their mental and psychological models [9]. The flow of application use, including user

experience and user interface, are fundamental characteristics of a digital application. FG research is one of the key methods for studying these aspects [38], and this study allowed to assess the perceptions of patients and professionals on the matter. Exploring each user's expectations and goals could further facilitate the personalization of the tool and tailor the care process [59].

Users expressed a preference for a mobile application that included personalized notifications and interactive content, supporting research findings that this could enhance engagement and adherence [60]. Personalizing content to meet the individual needs and characteristics of users was also a recurrent theme in discussions.

Regarding user interface, the challenge of accessing the application from mobile devices was considered, given that it was initially a web-based application, that was later improved by creating a version for smartphones. Participants mentioned that the predominantly text-based content made interactions heavy going, suggesting improvements could be made by incorporating videos or other visual formats [15]. Additionally, a need to enhance the visualization of data graphs was noted.

Limitations

This study exhibits limitations due to the small size of the formed groups and the fact that some of the surveyed users were not very familiar with the application, despite evidence suggesting that such unfamiliarity can positively contribute to evaluating user experience [61]. The FG strategy employed in the protocol, although effective for in-depth exploration of motivations, experiences, and subjective perceptions, is inherently limited in its level of evidence as it lacks statistical representativeness and does not allow for the measurement of phenomena [36].

Conclusions

The findings of this study illustrate the complexity involved in designing effective digital interventions for health issues such as CU. While technology presents unique opportunities to reach users, the results underscore the critical importance of understanding and addressing the specific needs of different demographics and levels of severity to enhance motivation and adherence to the program. Personalizing the tool to each unique situation, along with robust motivational strategies and an interactive design, appear to be key elements for the success of these platforms. Additionally, collaboration between technology developers, healthcare professionals, and end-users is essential to ensure digital solutions that are both practical and effective.

Moving forward in the design of DHIs that address therapeutic needs for substance use in innovative and engaging ways remains a challenge for the fields of medical informatics and mental health, and incorporating user perspectives and values into the design process is key to positively impact the acceptability, usability, and utility of these tools. Specifically for CANreduce 2.0, the insights gained from this protocol will be used to implement necessary changes and continue to improve the application’s content and dynamics.

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Conflicts of Interest

The authors report no conflicts of interest and have no funding to disclose.

Abbreviations

CBT: cognitive-behavioral therapy
CU: cannabis use
CUD: cannabis use disorder
DHI: digital health intervention
FG: focus group
SUD: substance use disorder

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Supplementary Files

Multimedia Appendixes

Interview guide for professionals.
URL: http://asset.jmir.pub/assets/0bfa7bb70670ba8e80208dbeb2024d66.docx

Interview guide for users.
URL: http://asset.jmir.pub/assets/4d00b1c0e61066d2d5d688121a8c28b8.docx

Overview of codes from the qualitative analysis of the transcripts.
URL: http://asset.jmir.pub/assets/0b5f3a5fdaa508854df6d0f4d0e2c4d9.docx

Qualitative results with codes from the interview's transcriptions.
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