Perspective

BehavioR: a digital platform for prevention and management of behavioural addictions

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Abstract

Behavioural addictions have been identified as an emerging public health problem. The unprecedented pace of the digital revolution, resulting in an ever-increasing use of internet-based technologies, provides the opportunity to create a unique resource to assist in offering public health interventions in the World Health Organization South-East Asia Region. The ability to deliver evidence-based treatment and preventive programmes that can be accessed by mobile phones, for example, increases access to a wide range of populations, including hidden or hard-to-reach populations. BehavioR (the Behavioral addictions Resource hub) has been established with the aim of offering a one-stop resource centre for behavioural addictions. The expected end-users of this digital platform include patients, caregivers, the general public, health-care providers, academics, researchers and policy-makers. The platform can be used to offer digital health interventions to patients; strengthen the capacity of health-care providers for early detection of, screening for, intervention in and management of behavioural addictions; and serve as an online repository for reliable information on behavioural addictions for the general public.

Keywords: behavioural addictions, digital health, digital health interventions, gaming disorder

Behavioural addictions and digital interventions

In the 11th revision of the World Health Organization (WHO) International Statistical Classification of Diseases and Related Health Problems (ICD-11), the number of diagnosable addictive disorders that do not involve use of a psychoactive substance has increased from one to two.1 2 The inclusion of gaming disorder in addition to gambling disorder in ICD-11 reflects and validates the growing concern regarding behavioural addictions as a major public health problem. Behavioural addictions are characterized by an irresistible urge, impulse or drive on the part of individuals to repeatedly engage in certain behaviours (not involving psychoactive substance use) that produce a feeling of transient euphoria or a high.2 This is combined with a loss of control, that is, the inability to reduce or stop the behaviour despite its causing serious adverse consequences to the person’s physical, psychological, social and/or financial well-being.2 In addition to gaming disorder and gambling disorder, other behavioural addictions, for example internet addiction and compulsive buying, have been proposed and are being actively researched.3

There has been an exponential increase in the use of and ease of access to the internet worldwide, including in the WHO South-East Asia Region. Indeed, data show that some countries of the region are among the most digitally active worldwide. For example, in 2017, India and Indonesia were the countries with the second- and third-highest annual growths in the proportion of the population using social media, and Thailand had the highest average time per day spent on the internet worldwide.4 The unprecedented pace of the digital revolution, resulting in an ever-increasing use of internet-based technologies, provides the opportunity to create a unique resource to assist in offering public health interventions in the region.

The World Health Assembly resolution WHA58.28 of 2005 defines eHealth as “the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research”.5 The Third global survey on eHealth identified it as one of the integral components that health-care systems would require to achieve the Sustainable Development Goals.6 Recent WHO guidance emphasizes that digital technologies provide opportunities to strengthen health systems and can thus contribute to achieving universal health coverage.7 Digital health interventions can target various stakeholders, including patients, health-care providers, and managers, resource managers and data service managers in health systems.8

The application of various digital and internet-based interventions has been shown to be feasible, acceptable and effective in the management of various noncommunicable diseases, such as diabetes and obesity, as well as mental health...
disorders, such as depression, anxiety, bipolar disorder and substance use disorders.\textsuperscript{5–12} Furthermore, there is promising evidence for the feasibility and effectiveness of delivering behavioural interventions to patients across different cultures and health-care settings using digital technology.\textsuperscript{13} The use of digital platforms to deliver mental health interventions via mobile phones, computers or other hardware provides a unique opportunity to deliver evidence-based treatment and preventive programmes to a wide range of populations, including hidden or hard-to-reach populations. There are several advantages to using digital platforms to deliver mental health interventions, such as their ability to reach at-risk populations in remote locations with internet access, at any time of the day, without relying on costly and scarce mental health professionals.\textsuperscript{14} In addition, these interventions can be easily scaled up in a cost-effective manner to address the rapidly increasing unmet mental health needs of the growing population of young people.\textsuperscript{14}

Digital interventions, including online, text-messaging and telephone support interventions have been found to be effective in the treatment and prevention of mental disorders in low- and middle-income countries. While most studies to date have been preliminary evaluations,\textsuperscript{14} they demonstrate that digital technology has been used for various types of interventions. Examples include technology for supporting clinical care and educating health workers, mobile tools for facilitating the diagnosis and detection of mental disorders, technology for promoting treatment adherence and supporting recovery, online self-help programmes for individuals with mental disorders, and programmes for prevention and treatment of substance misuse.\textsuperscript{14}

**BehavioR**

BehavioR (the Behavioral addictions Resource hub)\textsuperscript{15} is a new online resource that is being developed by the Behavioral Addictions Clinic at the All India Institute of Medical Sciences (AIIMS), New Delhi,\textsuperscript{16} with support from the WHO Regional Office for South East Asia. The aim is to develop BehavioR into a digital platform that is a one-stop resource centre for behavioural addictions. The expected end-users include patients, caregivers, the general public, health-care providers, academics, researchers and policy-makers.

**Potential BehavioR content for patients**

The platform can be used to offer digital health interventions to patients, including online self-help interventions and internet technology-mediated therapy (online counselling). Another option is internet-operated therapeutic software, which uses advanced computer capabilities such as artificial intelligence principles for various intervention types. These include robotic simulation of therapists to engage in dialogue-based therapy with patients; rule-based expert systems, whereby algorithms enable tailored assessment, treatment selection and progress monitoring; and therapeutic gaming and three-dimensional virtual environments.\textsuperscript{17} Web-based self-help interventions, including information- and education-based interventions, self-guided therapeutic interventions, human-supported therapeutic interventions and therapeutic education systems, have shown promise in treating mental and behavioural disorders,\textsuperscript{16} and such interventions will be developed for behavioural addictions as part of the BehavioR project.

**Potential BehavioR content for health-care workers**

In the WHO South-East Asia Region, the mental health-care workforce has been extremely limited, as evidenced by the large treatment gap, that is, the proportion of patients in need who are not receiving appropriate medical care. A 2004 WHO study estimated the gap to be between 76% and 85% for mental and neurological disorders in low- and middle-income countries; the corresponding range for high-income countries was 35–50%.\textsuperscript{18} The WHO Mental Health Gap Action Programme (mhGAP) recommends training non-specialist health-care providers (primary care physicians and health-care workers) to deliver effective, evidence-based treatments at community level.\textsuperscript{19} This could be achieved by building capacity among health-care providers at community level through the use of internet-based technology. It is envisaged that the BehavioR digital platform could be used to strengthen the capacity of health-care providers for early detection of, screening for, intervention in and management of behavioural addictions. The possible approaches include use of BehavioR as a learning management system and telemedicine-based learning platform.

**Potential BehavioR content for researchers, policy-makers and the public**

The BehavioR platform could also be developed further to provide information on the ongoing research into behavioural addictions, as well as the findings of such work. This would help to bring together up-to-date information for researchers, academics and policy-makers. In addition, the vast array of health content on the internet, of varying suitability and quality, can overwhelm people seeking help.\textsuperscript{20} BehavioR could therefore also serve as an online repository for reliable information on behavioural addictions for the general public.

**Current and future developments with regard to BehavioR**

Recommendations on identification and management of behavioural addictions have been developed by the WHO Regional Office for South-East Asia and will be made available via the platform.\textsuperscript{21} In addition, a basic online course on behavioural addictions involving internet use has been developed. Problematic internet use has been identified as an emerging problem among school pupils.\textsuperscript{22–25} The basic online course on behavioural addictions involving internet use is intended to build the capacity of schoolteachers and school counsellors with regard to early identification and detection of, and intervention in, behavioural addictions involving internet use. The course is offered through a learning management system and uses video presentations, online quizzes, online assignments, a multimedia discussion board, group work, journal activity, suggested readings and online real-time face-to-face sessions. The course is offered over a 10-week period and is free of charge to the end-user. The participants are expected to invest around 90 minutes every week. The findings from the first batch of participants report a statistically significant increase in knowledge, skill and confidence in
relation to behavioural addictions involving internet use. There was a significant increase in capacity to screen, offer brief interventions and offer referral services for cases of behavioural addiction involving internet use.26

In conclusion, BehavioR is planned to be a digital platform that will serve as a resource hub for behavioural addictions. There is a need and vision for developing and strengthening the platform further in order to offer these resources more widely. This will help to address behavioural addictions comprehensively and effectively from a public health perspective.

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References


