

REVIEW ARTICLE ARTIGO DE REVISÃO

Responsible Gambling and Mental Health: Topics for an Integrated Strategy in Prevention and Harm Reduction of Behavioral Addictions

Jogo Responsável e Saúde Mental: Tópicos para uma Estratégia Integrada na Prevenção e Redução de Danos das Adições Comportamentais

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Abstract

Problem gambling has become a major public health concern, with psychosocial and mental health consequences. Some efforts have been done in the last years by regulatory and health related bodies worldwide for assuring that betting can be safer and less harmful. A vast consensus concerning the need to promote Responsible Gambling strategies have been put forward, even though the implementation of policies in this domain is very broad, poorly systematized and often does not translate, in an evident manner, to consolidated and valid practices for promoting safe gambling and the prevention of morbidity. This paper aims to review theoretical and research-based arguments supporting the need of investment in responsible gambling field, and to propose some recommendations for sponsoring strategic policies in which harm-minimization and prevention tools are prioritized.

A literature review was carried out through an intensive search of online electronic databases and collaborative contacts with researchers in the field of non-substance addictive behaviors. Papers and documents from scientific and governmental boards, related to prevention and harm minimization or reduction of gambling problems and published between 1998 and 2018 were selected.

Different tools in the field of responsible gambling are pointed as good and evidence-based practices that need to be continuously implemented and replicated. Some others can be promising but need further research.

The findings of this study may help many entities and stakeholders involved in this behavioral addiction field (researchers, governmental and health agencies, regulators and gambling industry) for strengthening responsible gambling national policies and strategies.

Resumo

Os problemas de jogo constituem uma preocupação crescente no domínio da saúde, com graves consequências psicossociais e na saúde mental. Alguns esforços a nível internacional têm sido empreendidos nas últimas décadas pelas entidades reguladoras e da saúde, visando práticas de jogo mais seguras e menos lesivas. Um vasto consenso em torno da promoção de estratégias de jogo responsável é atualmente aceite, não obstante a implementação de políticas neste domínio seja pouco sistematizada e não se traduza, frequentemente e de modo evidente, em práticas validadas de promoção do jogo responsável e de prevenção da morbilidade associada. Este artigo tem como objetivo uma revisão teórica e dos achados da investigação científica que dão suporte à necessidade de investimento no campo do jogo responsável, propondo recomendações que subsidiem o desenvolvimento de políticas estratégicas que priorizem a minimização de danos e a prevenção dos problemas de jogo.

Foi desenvolvida uma revisão da literatura através de uma procura intensiva de conteúdos publicados nas bases de dados internacionais e por meio de contactos colaborativos com investigadores no domínio dos comportamentos

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aditivos sem substância. Foram selecionados artigos científicos e documentos conformadores produzidos por entidades científicas e governamentais, relacionados com prevenção e redução de riscos e minimização de danos dos problemas de jogo, publicados entre 1998 e 2018. Vários instrumentos no domínio do jogo responsável são identificados como boas práticas e devidamente baseados na evidência, sendo necessária a continuidade da sua implementação bem como a sua replicação noutros contextos. Outros ainda parecem ser promissores, mas requisitam investigação adicional.

Keywords: Behavior, Addictive; Gambling/prevention & control; Harm Reduction; Health Promotion; Mental Health/legislation & jurisprudence

Palavras-chave: Comportamento Aditivo; Jogo de Azar/prevenção e controlo; Promoção da Saúde; Redução do Dano; Saúde Mental/legislação e jurisprudência

Introduction

A plethora of changes of economic, social and political nature, predominantly occurring since the 1960's, have contributed to the expansion of various types of gambling worldwide, initially land-based opportunities and later through the Internet.¹ Such growth, oftentimes unhinged but economically attractive, would be recognized (at least implicitly) as less than prudent in a global mental health perspective, since the psychosocial repercussions arising from excessive gambling behaviors were gradually acknowledged and well-documented.

In response to the growing concerns of the communities, regulatory bodies of various countries have come to demand chance gambling agencies assurances that their betting is safe, fair, and accompanied with relevant information that would enable individuals to make informed decisions. At the end of the 1990's the first structured public health documents aiming to promote a culture of responsible gambling (RG) were released (for example, the report elaborated by the National Opinion Research Center,² adequately framed in policies and partnerships, which facilitate their implementation.

The concept of RG is broad and far reaching. It includes individual and collective dimensions that aim to positively encourage (gamblers and populations) an approach to gambling as an entertaining activity and that, if not adequately regulated and controlled (by the individual and the relevant agencies involved in intervening) may present severe risks and damage to one's health and other spheres of overall functioning, of gamblers themselves but also their families and communities as well. RG is therefore a construct that includes both micro and macro variables, which depends on the concerted responsibility between several partners that collaborate for a common objective: to protect the citizen from potentially damaging activities or, if they are already present, to reduce risks and harms associated to them.³

Regardless of the recent scientific acknowledgement of gambling as a non-substance addictive disorder, a vast consensus concerning the need to promote RG has been put forward in the last decades, namely by regulatory and state bodies both nationally and internationally. However, in an overall perspective, the variations found in the normative frames and in the implementation of policies

in this particular domain are very wide and often do not translate, in an evident manner, to consolidated and valid practices for promoting safe gambling. Perhaps because of this, the concept of RG has been severely criticized by some authors, who believe there is a focus in initiatives more directed towards self-regulation of the gambling industry in contrast to a greater specificity and emphasis on the protection of groups and individuals.^{4,5}

Nevertheless, there is a noticeable distinction of the concept throughout the years, which nowadays includes sectors with particular impact on the individual such as prevention (on several levels) of excessive gambling, the training of professionals on the specificities of gambling, the quality assessment of measures to reduce damage implemented for the protection of gamblers or the collaboration between gambling agencies and psychosocial counselling and treatment entities.⁶

This paper reviews theoretical arguments supporting the need of investment in Responsible gambling field since gambling problems are viewed as a major public health concern, with health, psychosocial and developmental consequences to the communities. For achieving this aim, a brief initial section approaching the problem of gambling under a clinical and research optic is presented, which is essential to understand the impact of these problems and the harms more commonly observed. Sequentially a critical review of the research in the domain of harm-reduction (HR) and prevention instruments for reducing gambling problems was developed and some considerations regarding their efficacy and implementation are pointed out. Finally, a discussion involving previously analyzed perspectives proposes some recommendations at the different levels of intervention, also sustained in international experiences which seem to be consolidated as good practices or, at least, promising strategies.

Methods

A literature review was carried out through two main procedures: an intensive search of online electronic databases and the use of professional contacts in the field of gambling and gaming in order to obtain relevant papers or documents from scientific boards related to prevention and HR of gambling problems. Data was collected from electronic

databases included PubMed; PsychArticles; PsycINFO; ScienceDirect; Scopus and also Google Scholar, this one being used as a general search instrument. The search terms used were ‘responsible gambling’, ‘responsible gaming’, ‘safe gambling’, ‘online gambling’, ‘land-based gambling’, ‘gambling harm-minimization (and reduction)’, ‘prevention gambling’. Inclusion criteria for selecting documents or papers were the following: addresses HR or preventive tools regarding gambling and gaming; written in English language; mentions empirical studies and/or constitutes national or international documents from scientific boards with expertise in non-substance addictive behaviors, and; had to be published within the last 20 years (1998–2018).

Results

a. Epidemiology and Psychiatric Nosology of Gambling Problems: A Short Framework

Gambling is for most people an enjoyable and safe experience, although some experience damage from such activity, when it is excessive and maladjusted, whether online or in casinos and bingo rooms (so-called land-based gambling). These damages are often associated with financial debt, with harmful consequences for the individual and their families.

Notwithstanding, the extension of the debt problems associated to gambling is relatively unknown in many countries, namely in the United Kingdom, a region where gambling is a well-established practice and where, innovatively, a governmental strategy was created for RG (The Responsible Gambling Strategy), comprising research, education, prevention and treatment in the matter.⁷ In other countries, where RG policies take their first practical steps, the lack of real understanding of the phenomenon is widespread, which is equally incremented by unconsolidated practices of surveying and screening gambling problems in their communities.

On the other hand, the proliferation of gambling opportunities throughout the world and more specifically in the virtual work (pushed by rapid and substantial technological advances) has encouraged a gradual change from the exclusivity of gambling in traditional contexts like casinos and bingo rooms, to more isolated and equally accessible contexts.

The morbidity associated to gambling practices appears firstly in psychiatric nosology starting in the 1980’s, then identified as *Pathological Gambling* in the 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM III) of the American Psychiatric Association (APA). The definition of diagnostic criteria in this domain resulted from the acknowledgement of clinical situations in which individuals experienced a gradual loss of control to gambling, being incapable to resist the urge to gamble, with a negative impact to their personal, family, occupational and financial domains of living.

The increase of scientific knowledge, supported with basic and clinical research, has prompted in the last few decades a set of significant changes in international classifications.⁸

Gambling disorder, for now the only behavioral addiction under the group of *Non-Substance Addictive Disorders* (NSAB) mentioned in the most recent version (the fifth) of DSM⁹ presents cognitive, neurobiological and behavioral similarities with *Substance-Related Addictive Behaviors* (SAB).¹⁰⁻¹³ Thus, an identical profile of symptoms (e.g. tolerance, craving and abstinence) and the existence of psychiatric comorbidities, physiopathological or even morphological brain changes¹⁴ are identified. The set of criteria for the diagnosis of gambling disorder in the DSM does not comprise ‘illegal actions’, as such it cannot be considered a core and differentiating element, whilst there is also a change in the criteria cutoff point (a minimum of 4 out of 9 criteria, for mild disorder). Several excessive and repetitive behavioral patterns (like some leisure and non-professional activities but often developed via Internet) have been described, integrating a category often designated as *behavioral addictions*. Not having existing evidence during the elaboration of the DSM 5 considered sufficiently robust (and therefore its non-establishment as well-defined diagnostics), ongoing research has increasingly supported other disorders in the field of non-substance addiction disorders. Version 11 of the International Classification of Diseases (ICD-11), published in June 2018, shows several changes to multiple domains, specifically those concerning *Mental, Behavioral and Neurodevelopmental Disorders*, related with those new research inputs. With some similarities with the previously published DSM 5, the diagnostic of gambling disorder in this classification however denotes some specificities, clearly based in recent literature and differentiating several gambling types. The introduction of non-monetary gambling (gaming) constitutes one of the most significant innovations, considering the state of the art in this domain is now sufficiently robust to integrate this syndrome as a mental illness.

Generally, the prevalence of gambling disorders is usually higher in male individuals, a trend which is observed worldwide.¹⁵ Urban areas can evidently present greater case numbers, which may relate, among other factors, to an increment of gambling opportunities, to an eventual greater purchasing power in such areas, as well as greater social isolation and less integration of some individuals in community support networks. In this regard, according to data from the Gambling Commission – United Kingdom,¹⁵ 97% of online players engage in their gambling activities at home.

This kind of problems has also been particularly identified in adolescents. At the international level, prevalence rates of problematic gambling between 2% and 13% have been reported,¹⁶ providing evidence that adolescent gambling became a relevant public health concern.¹⁷ Regarding this, data recorded from a regularly performed school survey in the European context concerning gambling behaviors in young people between the ages of 15 and 16 (ESPAD), also noted that 14 % of the students reported gambling for money at least once in the last year and 7% gambled frequently (2-4 times a month or more often).¹⁸ Moreover, about 23% of the students regularly used the Internet for online gaming (at least four times in the last 7 days), which that may support some vulnerability to online gaming was

more prevalent among boys (39%) than among girls (7%). In all countries, considerably more boys than girls had gambled frequently.

Although they do not report the prevalence of severe cases, the data from ESPAD may forecast potential vulnerabilities in young people in the domain of non-substance addictive behaviors, given that the gambling opportunities have increased very significantly (in several and appealing contexts, namely on the Internet), enabling gambling practices ever more precocious and frequent.

b. Gambling and Psychosocial Consequences

In a similar way to SAB, gambling problems may emerge in different phases of the life cycle in very diverse

circumstances, causing various deficits in the duration and intensity of being capable to manage daily life, specifically in social-emotional, family and occupational terms. The relationship between gambling problems and psychosocial maladjustment has been widely documented.^{19,20} Gamblers with a greater level of disorder tend to undergo negative emotional experiences and life events more often and more intensely (e.g. divorce, lack of social support, loss of belongings due to gambling debts, use of psychoactive substances as a mechanism to cope with distress, among others), which may help aggravate the disorder and the risk for developing psychiatric comorbidities, namely anxious and depressive states.

Table 1 – Health determinants and risks/harms associated with gambling problems (adapted from GREO, 2018)

Domains	Findings / Trends
<i>Age</i>	Adolescents, young adults and the elderly are particularly vulnerable to gambling. Early contact, particularly with online gambling, is a major risk factor for gambling problems.
<i>Economic status</i>	People with less financial inputs waste more money in gambling in comparison to others, especially in land-based gambling. Unemployed are more probable to waste money than the employed people.
<i>Education</i>	Lower educational levels and school performances predict gambling problems. Online gambling is more common in people with higher educational levels.
<i>Ethnicity</i>	Gamblers from minority groups seem to experience more psychosocial problems than gamblers from general population.
<i>Gender</i>	There are more men with gambling practices and problems than women. When women gamble, they seem to develop problems faster.
<i>Global health</i>	Gamblers are more sedentary and have major risk of developing health problems (such as obesity) comparing to non-gamblers.
<i>Living conditions</i>	Gambling is associated with psychosocial instability, housing problems and homelessness.
<i>Mental health</i>	About 30% of problematic gamblers show depressive problems and many gamblers use these practices as a coping mechanism to deal with negative emotions.
<i>Use of psychoactive substances</i>	People with gambling problems have 3 up to 6 times more probability to develop an alcohol use disorder and 11 more times to have an addiction problem with cannabis.

Adapted from: Gambling Research Exchange Ontario, GREO 2018. Gambling Harms: Mind Map. Ontario: GREO; 2018 [accessed Jan 2019] Available from: <http://www.greo.ca>

The onset of problems of this nature in earlier stages of life (childhood and adolescence) may be more worrying due to the impact they may have on the potential of global development, specifically on the processes of brain maturation, with detrimental and still somewhat unforeseeable consequences in the domain of future mechanisms of affective regulation and psychosocial adaptation. This, however, should not in any way take away importance from early screening and intervention as precocious as possible of the various gambling problem scenarios at the different phases of the cycle of life, striving for less consolidation of morbidity processes and greater reach in health gains. The frequent association between gambling problems and other mental illnesses or traces of pre-morbid psychological functioning^{21,22} requires specific intervention strategies, with a highly specialized technical approach.

Hence the support given to individuals with these problems, or at risk of developing them, should mobilize a wide response spectrum, specifically in health but with close collaboration with stakeholders in the fields of

education, community and legal matters, in order to mitigate the weight of the addictive behavior in the individual functioning/development.

c. Responsible Gambling and European Legal Framing

From an individual level perspective, RG is commonly defined by a set of practices and behaviors performed by a gambler that, consciously and rationally, steers his gambling actions and options without putting at stake their domestic, social and professional responsibilities, thus, acting in full control over the time, money and other resources spent. In a wider perspective (a community and sociopolitical level) the term includes the vast group of initiatives and programs implemented at the level of various organizational and value systems that aim to prevent or minimize harms from uncontrolled gambling practices and, as such, harmful to global health.^{7,23,24} The deployment of actions in this domain should, therefore, promote globally the access to information, awareness and prevention,

as well as counselling and support to gamblers, namely with a disorder type, whether in a strict setting of HR or in a therapeutic setting.

In a European context, and considering land-based gambling, there is a vacuum of normative documentation that frames these practices due to, in most countries of the European Union, the operation of gambling rooms is made by concession of each State. However, there is recognized common understanding, at the European level, of the importance of the deployment of actions towards an RG policy that is based on wide-ranging efforts. It ought to, therefore, integrate both public and private institutions, with a scope in matters of gambling (operating and regulatory entities), education and health (among others) and society, in general. With the expansion of the opportunities of gambling for money, particularly on the Internet, the need to implement actions that aim to promote the protection of citizens from more problematic gambling activities is consensual between the various Member-States of the European Union (EU), regardless of the differing technical and legal approaches undertaken to that end.

The European Commission sees the following objectives as priorities for assuring a higher level of common protection in the entirety of the internal market, even though observing the right of each Member-State to determine the regulatory framework applicable to gambling services:

- i. To develop across borders a range of authorized gambling opportunities that dissuade individuals from resorting to unregulated and potentially harmful gambling services;
- ii. To reinforce self-regulation mechanisms, including for example the registry of gamblers and age verification, conditioning credit concession and providing gambling self-limitation solutions;
- iii. To promote responsible advertising, informing about the risks of gambling;
- iv. To assure the protection of children and adolescents, by means of forbidding access to money gambling and by raising parental awareness regarding the dangers of gambling;
- v. To prevent gambling problems, by increasing knowledge, literacy and improving techniques for detection and treatment.

The most commonly strategies observed for the *promotion of safe gambling* by the land-based gambling venues (casinos, bingo rooms, gambling rooms and their respective websites) have been the spreading of information that alerts to gambling harms when s behavioral self-regulation recommendations are not followed by individuals. The same can be considered in relation to online gambling and betting, with a consensual need for gambling entities to continue following the determinations of the laws. It is also worth noting the work that private entities have been making, on their own initiative and with the general population, with the goal to increase awareness and information on the matter, as well as disease prevention and support, in different forms, to gamblers and families. However, the balance between the availability of attractive and safe gambling products, in conformance with the perspective

of RG and all the while based in good practices, does not constitute a simple and linear task.

d. Evidence-based Knowledge Concerning Responsible Gambling

The enactment of policies and initiatives promoting a culture of RG is notorious in recent years, as previously mentioned. However, the evidence that supports the choice of certain methodologies and programs (prevention and risk reduction) is relatively scarce and even lacking consensus.^{25,26} Yet still, several studies have been systematizing the scope of positive results in the deployment of some programs, in particular in the reduction of damages associated with uncontrolled gambling behaviors that may potentiate great psychosocial fragility.

As will be described shortly, the relevance of intersectoral policies in this matter is great, thus requiring an involvement of several actors participating in the regulation and intervention (in different perspectives) of this phenomenon.

i. Preventive Approaches

Recent research in this domain has been outlining that those who often contact with children and adolescents – parents, teachers and even healthcare professionals – show little awareness on the increased risk for younger people to develop gambling problems, in comparison to adults.^{27,28} Perhaps psychosocial consequences of gambling problems in adults are often more evident, whereas in children and adolescents these are frequently understood as being associated to other types of variables, namely the influence of vulnerable social contexts or the co-occurrence of other symptoms associated with lack of impulse control or behavioral issues.

A substantial part of preventive community-based and educational programs, mentioned in scientific literature concerning the subject of gambling problems, is included in the broad group of universal prevention strategies. Among them, some are predominantly focused on common determinations of healthy behaviors (protection factors) while others are more focused on risk factors, particularly of a cognitive nature.

One of the better identified risk factors in this context and on which preventive programs have been giving more emphasis is the set of erroneous cognitions associated to gambling. Based on the *Theory of Inoculation* by William McGuire (in the 1960s), it is considered that education and availability of knowledge in earlier stages of development can have a relevant role in preparing individuals for demanding future situations. In the case of the relationship with gambling, the knowledge provided by the social and educational settings may offer resilience factors against future excessive practices and behaviors.²⁹ These programs, often combining different approaches with children and adolescents, aim to deliver a space of contact with ideas associated to gambling (ex: gain opportunities, illusion of control, randomness) and their potential deconstruction. Still not studied exhaustively and precisely enough, the reported results tend to be positive, with impact in altering knowledge about the phenomenon, namely biased

perceptions and beliefs.³⁰ However, the isolation of these variables in relation to others that influence the adherence to more uncontrolled gambling behaviors can make preventive intervention artificial and partially effective.

The acknowledgement that preventive approaches centered on isolated risk factors may be limiting has led to giving greater premium to programs centered on increasing protecting factors or, at least, combining both focuses.³¹⁻³³ Programs more centered on health determinants, in addition to being able to indirectly address some risk factors, are centered on a perspective of healthy infant-juvenile development, possibly reinforcing characteristics that are positive and more adaptive of social-emotional functioning and reduce the likelihood of gambling problems.²⁹ The influence of these programs appears to be expanded when their implementation is made in continuity, in interactive sessions promoting involvement and discussion by participants about the proposed themes, thus less orthodox from a didactic standpoint. Much like some awareness raising campaigns in this regard, it matters that the contents of these programs (towards young people and adults) are simple, non-judgmental, non-forbidding and based in real life stories.²⁷

Selective and indicated preventive strategies have been relatively understudied in terms of application impact on gambling problems. Some researchers have emphasized the importance of developing preventive initiatives in school and community backgrounds especially in areas where there are more gambling houses and problems,³⁴ which aim to deter more harmful developments from a psychosocial and clinical standpoint.

ii. The Perspective of Harm Reduction (HR)

Concerning gambling related problems, the concept of *harm*, often intuitive, is mediated by some subjectivity as the several disciplines interested in the phenomenon of gambling have not reached consensus on a sufficiently robust definition.

Nevertheless, in this specific domain of addictive behaviors, the definition of harm has been put forward as any consequence (initial or more exacerbated and prolonged in time) from the practices of gambling and conducive to a decrease in the state of health or well-being, in an individual, family, community or population.³⁵ It is a definition that reflects the scope of a social model of health, identifying damage as a consequence (without too much of a focus on an etiological dimension) that compromises the overall state of health (with the underlying *macro* definition of health by the World Health Organization, WHO), which may happen to any person at any moment of their life-cycle.

Much akin to SAB, an approach in HR that aims to intervene globally with people with NSAB should promote the mitigation of risks and associated harms without, necessarily, requiring the suppression of the behaviors associated with the addictive object. Therefore, interventions must be based on a strong commitment with a perspective of public health and the defense of human rights, with an eminently biopsychosocial view, based on the premise that

addictive behaviors are naturally influenced by individual and environmental variables, on multiple levels (biological, psychosocial, economic, cultural and political, among others). As such harms promoted by gambling are systematized, by some authors, in categories that vary in temporal criteria, from general and more immediate consequences to others promoted in situations of crisis and, finally, those that result from continued morbidity processes that harm long-term development.

In short, the risks and harms in the matter of problematic gambling should be understood in an evident paradigm of complexity,³⁵ in which the measurable impacts may be present at several levels: *micro* – individual, family; *meso* – workplace, leisure environments, social groups; and *macro* – populations and society. Thus, the technical-scientific community has been underlining the need to create and promote instruments and policies of HR in the domain of gambling.

Gambling for money has naturally been the most prolific source of literature, much modulated by the acknowledgment of gambling addiction as an addictive illness.⁹ This does not mean that one should not recognize, nowadays, the technological development of gambling (money or otherwise) so swift and exacerbated that makes one weakness clear: the one of legal frameworks that foment the protection of individuals from multiple non-money games (ex: videogames), which may have an equally negative potential to health, namely addictive.³⁷ The celerity of the development of psychosocial protection and health policies applicable to gamblers does not, in fact, follow the emergence of devices promoting addictive phenomena with no substance, which constitutes a much clearer challenge to researchers, clinicians and healthcare policy makers.

The following is an outline of HR instruments that are nowadays recognized by scientific evidence (though not always with consensus) as having the best applicability to gambling contexts.

“Enforced break” mechanisms and informational messages

The emergence of dissociative states in individuals involved in gambling practices for long periods of time has been well documented.³⁸⁻⁴⁰ These altered states of conscience are followed by loss of space-time perception and difficulties remembering what one has done, among others. The presence of this type of symptoms often associated with anxiety and peripheral arousal (not only when there are gains or losses, but also in anticipation of play outcome) makes it difficult for individuals to stop gambling behavior.⁴⁰ It has therefore been suggested that the use of interruptions or enforced breaks during gameplay, even limitedly, may promote processes of self-regulation towards the gambling situation and, in that sense, be conducive to decision-making which is less harmful to the psychological health of gamblers.

Research in this area has, however, shown that the introduction of enforced breaks (specifically in electronic games) does not seem to lead to lower levels of dissociation,⁴² although the increase of break time (in minutes)

may relate to greater craving. Nevertheless, and given that the levels of craving and dissociation are highly correlated, it is probable that the dissociation holds a significant role in gambling practice continuity.

Such data outline the importance of carefully pondering the isolated introduction of enforced breaks, since the breaks can cause adverse effects (ex: increased craving without reducing dissociative symptoms). It is also unclear how long the time window of the enforced stoppage should be to reduce the desire to continue gambling excessively.⁴³ For that reason, some authors have suggested that such breaks should be accompanied by pop-up messages, that appear (on screen) and display contents related to the development of responsible gambling behaviors whilst the game is temporarily halted. This type of messages is more easily remembered than static messages, with longer lasting effects⁴⁴ and possibly extendable to other similar gambling contexts.²⁶

On the other hand, it is important that the content of these informational messages is precise and clear, namely about which types of gambling behaviors can be more or less damaging, thus promoting less erroneous cognitions or biases, consequently, clearer and more informed decision making.²⁶

Research data have outlined that the introduction of dynamic warning messages during gambling activity may associate with a reduction of irrational gambling related thoughts, as well the spent amounts.^{45,46} A relatively recent study by Stewart and collaborators⁴⁷ has confirmed this perspective, underlining that individuals that received dynamic messages during gambling (with the purpose of alerting about the limits of money spent) would more readily adhere to a stance of expenditure control, in comparison to another group of gamblers who did not receive such messages.

These results are somewhat analogous to those recorded by Palmer du Preez and colleagues⁴⁸ with gamblers using electronic devices (in casinos and other contexts). This study, carried out in New Zealand (a country where this type of dynamic messaging is mandatory in all electronic games available in several locations) has shown that reading these messages is associated with a reduction of amounts spent in gambling.

Even though other studies do not provide consensual answers,ⁱⁱ a large of available research seems to suggest that this type of information, conveyed through these media, may reduce the damages caused by excessive gambling practices. It is worth noting, however, that it is not evident whether or not the efficacy of these strategies is promoted by its whole (forced interruptions + message with precise content about RG) or by one of its isolated elements.

Messages promoting self-appraisal

Some authors²⁶ have considered that the display of messages with warning contents about potentially negative consequences of practices (for example, of excessive gambling time) does not result in sustainable change of gambling behavior. In a perspective of HR, in respect to the self-determination and autonomy of the gambler, the introduction of messages that promote the self-assessment of the gambler concerning gambling duration or money spent in

a session (ex: “Do you know how long you’ve been gambling?”; “Do you know how much money you’ve spent since you started gambling?”) may be a strategy which is more effective and adapted to individual behavior, obviously in a less intrusive or even condescending tone.⁴³

Even though the scientific evidence in this domain is limited and lack some consistency, some research has been made to evaluate the impact of introducing pop-up messages of self-assessment by the gamblers. The results show a great awareness of thoughts and behaviors associated to gambling, namely concerning time spent. It is, however, worth noting that many of the experiment contexts do not accurately replicate the ecology of most gambling spaces, foregoing innumerable situational factors associated with *in vivo* gambling. Regardless, such findings may provide promising data in the sense that, with proper adjustment, these strategies may mitigate the risks associated with abusive practices.^{49,50}

Messages with normative feedback

Customized normative feedback is a strategy that aims to alter individual perceptions towards what is, commonly and socially, assumed as adequate by others regarding certain behaviors. This strategy has revealed positive results in relation to the increase of health behaviors such as smoking cessation, marijuana usage reduction or the use of condoms in sexual activity.^{51,52} Also, in the realm of gambling for money, some studies⁵³ have underlined positive results in stopping continued gambling in a given session when players are confronted with wider dynamic messages of this kind.ⁱⁱⁱ It is worth noting that this type of messaging can often include contents of self-assessment (ex: number of plays performed), making it difficult to understand if the effectiveness of the strategy is delivered by the feedback, by the content promoting behavioral self-assessment or both. Additionally, it is unclear the possible modulation of the responses to these messages due to social desirability levels in individuals, namely in those that show less addictive morbidity.

Establishing limits of expenditure and access to funds

The option of a gambler establishing a prior commitment in terms of money and time spent on a game (land-based or online) is a tool already available in some gambling contexts. The goal of this tool is to allow gamblers to pre-configure limits of time and money in a state of (theoretically) less emotional activation, in order to spend only what was initially predicted. Depending on the location of the venue or website, the limits may be established in terms of deposits as well as the number of games, losses, winnings and bets; these can be set for a daily gambling session, or for weekly and monthly timeframes.

Some evidence has underlined positive results decreasing expenditure in lottery gamblers and in a casino context in the month subsequent to setting limits, in comparison to a previous time period, without however the same tendency being observed in terms of time spent.⁵⁴ Hing and colleagues⁵⁵ have outlined that gamblers with access to digital currency tend to exhibit higher levels of gambling and more difficulties controlling, more easily exceeding

self-imposed limits. On the other hand, outside regulation of access to funds may be relevant to some individuals.⁵⁵ There is evidence that suggests that gamblers that experience damage from excessive practices are more likely to request money at gambling locations.⁵⁶ Thus, in some territories the access to ATMs at gambling locations is restricted, promoting a considerable reduction in the demand for electronic gambling machines.⁵ Such data seem to indicate that more restrictive measures in certain contexts may eventually benefit some gamblers, notwithstanding their introduction should be carefully considered in an intersectional way and involving several partners.

Self-exclusion programs

Programs and mechanisms of self-exclusion have been adopted by several countries as strategies to regulate gambling behavior and mitigate adverse consequences in gamblers that show a systematic trend of excessive practices and, commonly, gambling disorder. It is thus predominantly considered an HR measure for problematic gamblers. It may, still, be employed in an earlier phase of gambling issues in an individual, in a way to attenuate a fast development to a more severe clinical disorder.

Some evidence has been produced concerning the demographics of the people requesting this measure, their motivations for it and its impact.

By means of a systematic literature review Motka and colleagues⁵⁷ describe (in terms of social-demographic aspects) that individuals that request self-exclusion are typically male, report very high levels of urgency regarding gambling practice and prefer electronic games, including slot machines. The requestors of this measure online are on average ten years younger than those that request it for land-based gambling. In both types they report much higher gambling expenditures than those not requesting self-exclusion.^{54,58}

A large part of these individuals reports not having sought any professional help before requesting self-exclusion, which seems to revert after the measure ceases, where the demand for specialized clinical support increases considerably, relatively similarly between men and women.^{59,60}

The motivations for the self-inclusion in this type of programs have been described as financial, emotional/relational, legal and associated to a decrease in overall health.⁶¹ On the other hand, in the case of land-based gambling, some authors have stated that the increase in the potential exposure to gambling practices due to a large supply of gambling venues in a given area seems to relate significantly with the increased requests for self-exclusion.⁶²

Studies addressing the efficacy and impact of these programs are, at the moment, relatively few. It is worth pointing out that recently performed research and meta-analyses, mostly concerning land-based gambling self-exclusion, outline important indicators of improvement of gambling issues, of additional psychiatric symptomatology prior to adhering to these programs (ex: anxiety, depression, problematic use of psychoactive substances), as well as perceived quality of life.^{58,63} The absence of longitudinal studies with a greater timeframe of monitorization does not clarify whether these effects last consistently in

time, namely concerning relapse, maintaining abstinence or other variables.

Some variables have been globally identified as possible barriers to a more positive impact from these measures.

In literature, gamblers have reported aspects such as concern with the privacy and confidentiality of the process; stigma; lack of information provided by gambling house professionals regarding procedures; and the option to resort to other gambling houses not included in the establishment of self-exclusion.^{61,64,65} The variable duration of these programs, some undefinition about the applicability of these to persons with pre-morbid symptoms, as well as the sparse support in the post self-exclusion period are equally seen as weaknesses of these measures.⁵⁷

The effectiveness of this measure is still reliant on the licensing of the gambling spaces. It is acknowledged that, both nationally and internationally, many gambling spaces are illegal (both land-based and online), increasing the risk of harmful practices without any recourse to protection for the gambler. On the other hand, the issues inherent to a more effective data protection and the challenges concerning sharing them between economic agents can be equally relevant.

In short, the mechanisms of self-exclusion being relevant in the matter of HR concerning problematic gambling, it is important that research finds new data about its effectiveness and impact, namely on the overall health indicators of the gamblers that request them. Additionally, in the legal and regulatory domain, it is necessary to develop specific instruments that, ultimately, help the process of self-exclusion from multiple gambling contexts.

Training professionals

The literature has emphasized the relevance of training professionals in gambling contexts,⁶⁶ namely in casinos and bingo rooms, given the frequent contact with gamblers and the potential for support that their presence may offer in reducing more abusive practices by the users.

Some studies have pointed out difficulties by professionals in identifying excessive gambling patterns in gambling site clients.³⁹ Additionally, these professionals seem to show discomfort assuming a role which is still perceived as double – employee of an economic agent and simultaneously a promotor of RG – thus reporting confusion and apprehension towards approaches from clients that seek support to change their uncontrolled gambling practices.⁶⁴ Perhaps for the same reason, the literature emphasized that these professionals tend to be more passive and condescending at gambling venues towards persons that show signs of problematic gambling.⁶⁷

The training of professionals, namely in land-based venues, may constitute an instrument of great importance for a perspective of RG, especially in the domain of HR. The recognition of some exuberant signs of gambling problems in certain individuals, associated with an empathetic attitude and not exclusively centered on the gains of the gambling promoters is a difficult and surely dilemmatic balance for a gambling venue professional. The behavioral adequateness of these professionals can only be strengthened by continuous training. In this regard, it is

worth noting that the responsibility to publicize/explain support and treatment resources to individuals with gambling problems must be integrated in the activity of these professionals.

c. Regulation and Public Health

Experiences at the international level

Worldwide, we have been seeing the development of Strategic Plans that establish various priority objectives with timelines for the deployment of initiatives. These tend to integrate, relatively homogeneously, a set of priorities that materialize through action areas that integrate many of the abovementioned interventions. These macro objectives tend to incorporate:

- A deepening awareness and rigorous assessment of gambling associated damage;
- The promotion of safe gambling environments, that actively seek to reduce damages by means of adequate information and that aid the search for support by gamblers with issues;
- The improvement of gambling problem screening and therapeutic solutions, using up to date knowledge and impact evaluation;
- The development of increasingly more effective HR interventions, by means of pilot projects;
- The promotion of a culture of evaluating new projects/initiatives;
- The promotion of gambling advertising strategies that do not violate the principles of RG, foregoing a negative language (focus on *gambling problems*) in favor of a more positive one (focus on the *ability to control* excessive or harmful practices);
- The nurturing of protective and resilience factors in communities, families and individuals and training professionals on the risks associated with gambling;
- The nurturing of the participation of numerous organizations from public and private sectors assuming a shared responsibility over the mitigation of damages associated with gambling problems, properly based in the development and implementation of intersectoral policies.

The operationalization of these strategies is obviously complex and challenging, requiring an interaction between different systems with intricacies and idiosyncrasies of their own, often deeply rooted.

Regarding HR initiatives included in countless national strategies, self-exclusion programs have been the ones with greater data reporting and with some positive results gained from their implementation.⁷ However, the impact of said strategies in the psychosocial and health domains is not sufficiently clear in a longitudinal perspective, lacking additional evidence in longer timelines. On the other hand, the possibility of self-exclusion being extensive to several operators is still discussed yet little used and, consequently, understudied.⁶⁸

The same can be observed in some studies that seek to assess the importance of the content of gambling advertising and their adequacy regarding gamblers' characteristics, as a territorial strategy of HR. The results attained outline the

insufficient evidence that these strategies can influence positively the most vulnerable groups, those who maintain regular gambling habits. Such strategies lack diversity and study on the impact at different levels of vulnerability to gambling damage.⁴⁵

In the preventive domain, the need to deepen the prevention of uncontrolled gambling habits is recognized, at the various previously mentioned levels (environmental, universal, selective and indicated); thus, directed at the general population, at groups considered at risk and having greater vulnerability and the individuals with more or less established gambling problems.

Some research data in the field of universal prevention appear promising. Programs in which interventions are composed of several sessions, in a comprehensive, interactive and integrating approach of different aspects related to gambling problems (for example: erroneous cognitions, causes of excessive practices, informed decision making) offer positive results in terms of a greater understanding of the potential injury of certain gambling practices, as well as a reduction of the betting and gambling problem frequencies. The maintenance of these health gains at a long-term period are not properly researched.⁶⁹ Regardless of the existing insufficiencies ensuring an extensive preventive efficacy of these programs, their implementation seems to support quantifiable changes in skills of children and adolescents that, globally, are protective in relation to psychiatric diseases.

The underlying limitations to the guarantee of efficacy of the interventions are likely applicable to other prevention levels, that equally lack research about practices which, in fact, show a better cost-benefit ratio.

In the field of selective and indicated preventive approaches, it is worth noting a recent study by Caillon and collaborators,⁷⁰ in which the self-exclusion measure was implemented as a preventive strategy. Individuals at risk of gambling disorder were integrated in this measure, having been recorded improvements at the level of erroneous cognitions and desire to play in subjects, in the period of 2 months after self-exclusion. Such data, relatively unique in the assessment of the applicability of self-exclusion programs and online gambling problems, offer fertile ground for research about the possible adaptation of these strategies to the plan of the indicated prevention that is to be replicated.

Regarding the particularities of environmental prevention – a determining spectrum of a true culture of regulation – it is outlined the need to continuously evaluate the implementation of certain policies of mitigating the risks associated with gambling, namely the increase of health literacy in this domain and the restriction of access to children and young people.

The policies of environmental prevention should equally have in consideration the social changes gradually made in different development contexts, namely at the family level which, often, promotes an enormous amount of access to new technologies. Some authors have speculated about how the unsupervised access to Internet by some children and young people do not promote a precocious contact

with gambling opportunities (money and non-money, legal and illegal).

In a literature review by Gainsbury and colleagues⁷¹ about the relationship between gambling and gaming, it is evident the gradual approximation between industries in both sectors. The gambling products more and more include gaming themes and operators are motivating equally for both activity types. Some studies⁷² have identified groups of individuals that initiated habits in Internet gaming sites and, in 6 months, started making money betting. This transition is not linear or automatic nor there are any clear evidences of the factors that contribute to it. The multiplicity of motivations for games in both domains is very extensive.⁷³ However, factors such as the early contact with different game opportunities, dimensions and vulnerabilities of the psycho-affective and family functioning and others associated to the quality of social and community involvement deserve careful study.

In this perspective, the education for the digital use – of technologies (overall), Internet, videogames and others – whether of children and adolescents, whether by families, constitutes a crucial aspect to be focused for a wider perspective of environmental prevention in the domain of gambling. This should occur observing the development stage of the individual (age, interests, stimulation needs), offering support in the didactic exploration of these settings and promoting protection from online risks.^{74,75}

Discussion

The previously laid out theoretical review, based in the state of the art and the recognition of good practices already implemented, outlines the relevance of promoting integrated RG strategies that enable informed decision making relatively to potentially harmful gambling practices.

The outlining of an integrated intervention strategy for RG assumes not only the knowledge of scientific evidence but also the mission and intervention of different SH that, together, can promote the protection of citizens and prevent excessive gambling practices in the general population, overall, and groups considered at risk, specifically. The implementation of integrated strategies constitutes an opportunity to promote progressive changes of understanding these phenomena, in turn the specific impacts of each of those systems. In the face of this complexity, the course of implementation of strategic plans in several territories is not always accompanied by a regular monitoring of the products pertaining to its execution, making it often difficult to identify the practices that are more efficacious in the group of policies they are included in.

Any strategic plan in this area, similarly to what is noted in other strategies for the intervention in wide complexity phenomena, requires the involvement of multiple domains of intervention. It involves then, the commitment of different structures, to ensure the preparation of professionals and citizens and the reduction of harms in groups with morbidities. Based on the previously mentioned, the following topics propose a network of interactions between different domains of intervention, in an integrated and complex model,

aiming to enable initiatives and that, with partnerships, can implement a policy of RG.

Some recommendations in the area of health interventions

- The access to therapeutic and psychosocial support, whether to gamblers or families, should be increased (as well as publicized) in specialized facilities for treating AB, for assuring integrated responses in a community-based approach. This dimension facilitates the search for solutions and mitigates the stigma specially associated with hospital care.
- The training of professionals belonging to the specialized care of AB and primary healthcare should include more specific and continued training in NSAB, giving them more assertive skills in the screening and diagnostics of this type of disorders, promoting the dynamics of health and psychosocial networks through adequate referral to different levels of care.
- The self-exclusion programs should be better defined and subject to guiding lines (ex: to whom they are really for), striving for a better dissemination in different intervention contexts (clinical, community) and considering its applicability to individuals at risk of clinical disorder.

Some recommendations in the labor field

- The assurance that gambling venues and websites assume duties to protect their clients should be reinforced and maximized through an investment in the differentiation of professionals dealing directly with consumers. This investment means continuing training, which promotes relational and risk detection skills.
- The development of concerted actions between the areas of healthcare, education and gambling industries (ex: videogames and other contents) promoting RG, namely the awareness of operators to perform their activities responsibly.

Some recommendations in the educational and social fields

- The increase of literacy in the digital domain and of NSAB should be increased, among educators (teachers/parents/families) as well as children and adolescents, in face of the increasing early contact with potentially addictive instruments.
- The implementation and dissemination in school and community environments of programs preventing uncontrolled gambling practices, in collaborative partnerships between healthcare and education sectors, ought to be prioritized.
- The reinforcement of actions in schools and associated community-based entities (ex: parent-teacher associations) with the goal to protect children and adolescents by ways of restricting access to gambling contents; and parental awareness initiatives.

Some recommendations in the communications and marketing field

- To promote responsible advertising that sufficiently informs citizens of age restrictions in the access to

money gambling; and that contains explicit mentions about the importance of responsible gambling practices, gambling problem risks and the opportunities of gains in certain games or customer loyalty programs at gambling sites.

- The several gambling contexts (online or land-based) should explicitly show content that facilitate the search for clinical and psychosocial support by individuals that show gambling problems.
- Allow gamblers to access RG information in advertisement messages (ex: e-mail) as well as game history when renewing a loyalty program or an annual fee at gambling houses.
- Gamblers that integrate self-exclusion programs should be protected from receiving gambling-related advertising.

Some recommendations in the legal field

- To discourage individuals from resorting to non-regulated and potentially harmful gambling venues, it is necessary to reinforce the cross-border development of a wide range of duly legalized gambling opportunities, involving partnerships with authorized operators, in a way that enables attractive and reliable products, which are properly regulated and support informed gambling decision making.
- Should be considered policies that regulate the opening of new gambling venues, thus avoiding areas/territories where greater psychosocial and community risks are identified.
- To reinforce the implementation of regulation mechanisms that enable gambler registry and age verification; the identification control in the context of financial transactions; the non-concession of credit and the option to limit spending.
- The removal of ATMs from gambling sites and their vicinities can reassert the amount management by gamblers.

Research, Evaluation and Impact Assessment

- The incentive to increase knowledge in gambling and gaming fields should be upgraded, concerning risk

factors and factors that support the transition to higher degrees of disorder, with the aim to improve detection and morbidity treatment.

- It should be encouraged the continued research on prevention programs in school contexts regarding excessive gaming (with and without money) among children and adolescents.
- The impact of HR strategies, namely of self-exclusion programs and enforced stop/informative gambling messaging, should be evaluated in wider timeframes and also with a health impact assessment focus, as well as economic evaluation and cost-effectiveness concerns.
- The development of pilot-projects, assessing the efficacy of the implementation of training programs among workers at gambling venues, should be prioritized.

Conclusion

This paper reviewed different evidence-based arguments that support the continuity of investment in a Responsible Gambling Policy, with a Global Mental Health perspective, necessarily allowing the differences and specificities across countries and regions worldwide. Acknowledging gambling problems as a public health concern has been a drive to monitor these phenomena through national and international Boards. It is very relevant to bear in mind that the heterogeneity of cultures and geographical characteristics may naturally interfere with the potential implementation of some of the abovementioned recommendations. Thus, endorsing RG tools in preventive and HR settings requires not only the ecological adaptation as well as the testing of the instruments (in the case of HR tools) across different game types and in real-world settings. Additionally, problem gamblers should be involved in the testing of new HR approaches so that opportunities can be effectively adapted to these individuals and they can consider them as good tools for managing their gambling behaviors in a healthier way.

Included in Governmental and Scientific Boards Strategies developed worldwide, such as:

iDefinition of *Health* formulated by the World Health Organization (WHO), as “a state of complete physical, mental and social wellbeing not consisting solely on the absence of illness or disease”.³⁶

iiResponsible Gambling Strategy Board (2016). *The National Responsible Gambling Strategy 2016-17 to 2018-19*. Available at: <http://www.rgsb.org.uk>

iiiDirección General de Ordenación del Juego (2012). *Responsible Gambling Strategy in Spain*. Available at: <http://www.ordenacionjuego.es> www.ordenacionjuego.es

ivResponsible Gambling Councils - Centre for the Advancement of Best Practices (2013). *INSIGHT 2013 - Responsible Gambling Best Practices for Player Incentives: Land-based Venues*. Available at:<http://www.responsiblegambling.org> www.responsiblegambling.org

vMinistry of Health. 2016. *Strategy to Prevent and Minimize Gambling Harm 2016/17 to 2018/19*. Wellington, New Zealand: Ministry of Health. Available at: <http://www.health.govt.nz>

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