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ADDITIVE BEHAVIOUR THROUGHOUT LIFE: PREVENTION STRATEGIES

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Abstract

Additive behaviors are a public health problem, with serious implications on the mental health of psychoactive substance users. This study seeks the answer to the questions 'Does psychoactive substance use have implications for consumers' mental health?' and 'What are the best intervention strategies?' A systematic review of pertinent literature was conducted on the problem of psychoactive substance use and current intervention strategies to prevent addictive behaviors and promote the mental health of individuals and their families. In this paper, we explore the implications of the consumption of psychoactive substances in the mental health of its consumers but most importantly, our aim is to identify the most appropriate preventive approaches for this type of behavior. The databases used were PubMed, Lilacs, Scielo, Google Academic and B-on. The analysis reveal that the consumption of psychoactive substances has serious implications in the mental health of its consumers (Dual Pathology), are a social and public health problem and constitute an important health care focus. Preventive approaches should be considered in terms of social context and level of risk. The consumption of psychoactive substances reflects very different phenomena depending on the substance, the person and the social networks of support. These consumptions are often associated with problems of interpersonal relationship, adaptation, low self-esteem, low tolerance to frustration, poverty and professional instability. Prevention strategies should focus on deterrence, risk reduction and harm minimization, treatment and reintegration.

1. Introduction

Given the fact that health is a means to achieve general well-being, Mental Health (MH) promotion itself is an important component of overall health, with both health professionals and the community involvement as well as awareness initiatives playing a crucial role, since Mental Health/Illness concerns us all, directly or indirectly.

The World Health Organization (WHO) recognises the relevance of MH, as can be attested by its very own definition of health as "a state of complete physical, mental and social well-being" and not just the absence of illness, since MH encompasses such dimensions like "subjective well-being, autonomy, perceived self-efficiency, competence, intergenerational dependence and the individual's self-realisation of intellectual and emotional potential", which makes biological, psychological and social functions inextricable from one another (WHO, 2001).

In 2005, the European Commission emphasised that MH favours both intellectual and emotional fulfilment, which allows the individual to be integrated in a family, school, work and social environment, favouring prosperity, solidarity and social justice. It also states that the psychological state of each individual is determined by several factors:

- Biological (i.e. genetics and gender);
- Individual (personal background);
- Familial and social (social setting);
- Economic and environmental (social status and living conditions).

Also, according to Sequeira (2006), MH stems from the individual being inserted in an optimal development context, taking into account biological, psychological, social, cultural and ecological factors Sequeira states that an individual achieves mental health when he/she is able to establish well-adjusted relationships with peers, when he/she actively engages with the surrounding environment, successfully solves and manages internal conflict (efficient coping mechanisms) and puts effort into social achievements. MH is not just the absence of illness, mental disorder or behavioural changes – mental health implicates adaptive responses, although maladaptive responses on their own do not indicate mental illness.

According to the Canadian Federation of Mental Health Nurses (2009), MH can be defined as the ability to feel, think and act in order to increase one's aptitude to enjoy life and deal with challenges it may present, and in that sense the individual must be able to:

- Understand himself and his life;
- Relate to others, responding to the environment's requests;
- Feel pleasure and satisfaction, endure stress and despair;
- Assess challenges and problems;
- Pursue goals and interests;
- Explore options;
- Make decisions.

In this perspective, MH is the term that describes a certain quality of life, cognitive or emotional, and includes the individual's ability to appreciate life, relate to others and seek balance between activities and challenges in order to achieve psychological resilience (Sá, 2010).

The concept "resilience" was coined by Anthony & Cohler (1987) as a set of personality traits and skills that allows people to be resilient or, in other words, being invulnerable to traumatic experiences, preventing them from developing psychiatric disorders.

It can be inferred that each society has its own definition for MH since it may change according to the social, cultural, economic and legal context of the individual (OMS, 2005).

In this paper, we aim to understand the implications of psychoactive substance use on MH and explore the preventive approaches for that type of behaviour. In order to accomplish that, we performed a literature review, with a special consideration for the guidelines established for the Portuguese scenerio.

2. Psychoactive Substances

The use of psychoactive substances "originates and reflects somewhat different phenomena according to the dynamics stemming from the interaction of such aspects as substance, individual, social support networks and social, economic and political context." (Institute of Drugs and Addiction [IDT], 2009, p. 3)

These substances have a wide range of deleterious effects, affecting both mental and physical health. Physically, addiction to psychoactive substances may compromise the health of the individual, since it associates with a higher chance of infectious diseases, malnutrition and lack of personal hygiene. As for possible influences on MH, common issues include affective/interpersonal relationship problems, struggling to adapt to values and norms, low self-esteem, low tolerance to frustration and shifts in reality perception. Also, substance use is often related to difficult life circumstances such as poverty, professional instability and problems with the law (Moro et al., 2000).

Given the impact in modern society and the world, and the proportions of substance abuse, a set of epidemiological, political, economic and social concerns have resulted in an increased focus on psychoactive substance use (Ferreira-Borges & Filho, 2004).

In terms of public health, the problems related to alcohol, tobacco and other drugs (psychoactive substances) have a direct influence in the increase in mortality rates all across the world. Moreover, substance use carries consequences not just for the individual (see table 1), but also for those around him/her, for institutions and for society. The use of this sort of substances incites the emergence or development of physical and psychological illnesses (Filho & Ferreira-Borges, 2008).

Table 01. Summary of the effects of psychoactive substances

Substance	Primary action mechanism	Tolerance and withdrawal	Prolonged use
Ethanol	Increases the inhibitory effects of GABA and decreases Glutamate's excitatory effects. Reinforcement probably associated with higher activity in dopamine's mesolimbic pathway.	Tolerance development due to higher liver metabolism and receptor changes. Withdrawal symptoms may include shaking, perspiration, weakness, agitation, migraines, nausea, seizures, *delirium tremens*	Changes in brain structure and function, namely pre-frontal cortex, cognitive disorders, decrease in brain volume.
Hypnotics and sedatives	Facilitators of endogenous inhibitory neurotransmitters	Quick tolerance development for the majority of effects due to brain receptor alterations. Withdrawal characterised by anxiety, wakefulness, restlessness, insomnia, excitability, seizures.	Memory disturbances.
Opioids	Activation of Mu and delta receptors in brain regions implicated in the response to psychoactive substances, like the mesolimbic pathway.	Tolerance occurs due to short and long-term changes in receptors and intracellular signalling. Withdrawal can be severe and is characterized by transpiration, coryza, restlessness, shivers, cramps, muscle pain.	Long term changes in peptides and opioid receptors. Adaptation to reward response, learning and stress.
Cannabinoids	Activation of cannabinoid receptors. Also increase dopaminergic activity in the mesolimbic pathway.	Quick tolerance development. Rare withdrawal, perhaps due to cannabinoid half-life	Long term exposure to cannabis may produce durable cognitive impairment. There is also an increased risk for aggravating mental illness.
Cocaine	Cocaine prevents the reuptake of transmitters, namely Dopamine, prolonging its effects.	Possible short term acute tolerance. Not many evidences of withdrawal but depression is common in users.	Cognitive deficits have been found, anomalies in specific regions of the cortex, motor function impairment, impaired reaction time.
Amphetamine	Increase in Dopamine release while simultaneously inhibiting its reuptake.	Tolerance develops quickly in regards to behavioural and physiological effects. Withdrawal includes fatigue, depression, anxiety and cravings.	Sleep disorders, anxiety, loss of appetite, dopamine receptor changes, metabolic changes cognitive and motor impairments.
Ecstasy	Increase in serotonin release and blockade of its reuptake.	Tolerance may develop in some individuals. Most common symptoms are depression and insomnia.	Damage on serotonergic systems, behavioural complications. Long term psychiatric and physical problems such as memory disorders, decision making, self-control, paranoia, depression, panic attacks.
Volatile substances	Likely to act in a similar way as sedatives. Activation of mesolimbic dopamine.	Tolerance somewhat difficult to evaluate. Withdrawal increases vulnerability to seizures.	Changes in connection and function of dopamine receptors; impaired cognitive function; neurological and psychiatric problems.
Psychedelics	Different types act on different brain receptors (serotonin, glutamate, acetylcholine).	Tolerance develops quickly for both physical and psychological effects. No evidence of withdrawal.	Acute psychotic episodes, and even chronic. Revival/relapse of the substance's effects, long after its use.

3. Preventive Intervention towards Additive behaviours

"In regards to prevention of psychoactive substance use and addiction, we verified a growing need for the development of structured policies and interventions, supported by scientific evidence, that actively contribute to the promotion of quality plans and efficient results"

(General Directorate for Intervention on Addictive Behaviours and Dependencies [SICAD], 2013, p. 5). In this sense, preventive intervention intends to provide information to individuals and/or specific groups, giving them the necessary skills to deal with the risk associated with psychoactive substance use. Besides mental illness markers and risk factors, prevention and health promotion must also consider the assessment of positive markers/protective factors (Keyes, 2006; O'Connel et al, 2009; WHO, 2004, cited in SICAD, 2013, p. 7).

In this sense, good quality and effective preventive interventions are challenges that require permanent knowledge updates as well as organisation of policies and practices, being imperative to extend a preventive response to additive behaviours in the health sector, and through local/regional structures (SICAD, 2013).

Portugal's new plan for Reduction of Additive behaviour and Addiction 2013-2020 (PNRCAD), arises from the termination of the PNRCAD 2005-2012 and the re-definition of policies and health services, increasing the approach and responses to other additive behaviours besides psychoactive substances consumption (SICAD, 2013).

The current model for preventive intervention, based on comprehensive and social influence models, operates on three levels (figure 1 and table 2) (IOM, 1994, 2009, cited by SICAD, 2013):

1. Universal Prevention– directed to the general population, without previous assessment of individual risk;

2. Selective Prevention – directed to subgroups, or portions of the general population that display specific characteristics identified as risk markers for psychoactive substance consumption.

3. Targeted Prevention – individuals displaying risk behaviours and signs of psychoactive substance abuse, or even subclinical and problematic behaviours.

Simultaneously, there is another approach – the Environmental Prevention, which comprises global strategies to intervene in society and social systems.

Table 02. Synthesis of the operational levels for preventive intervention

Universal	Selective	Targeted
General Population	Individual Subgroups with common risk characteristics	Individuals with specific risk characteristics
Does not assess individual risk	Does not assess individual risk, but the groups' risk profile	Individual risk assessment
Slow initiation or prevent the use/abuse	Slow initiation or prevent the use/abuse	Stop the use/abuse progress, and related issues
Participants are not recruited	Participants are recruited	Participants are recruited
Low intensity	Mild Intensity	High intensity
Short-medium duration	Medium-long duration	Long duration
Fewer professionals per subjects	More professionals for a smaller number of subjects	More professionals for a smaller number of subjects
Non-specialized professionals	Specialized professionals	Specialized professionals
Reduced costs	Higher costs	Higher costs

Source: DGIDC, 2007, p.83

A precautionary approach should be balanced according to the needs of the social context, domain, level of risk, and previously diagnosed characteristics of the recipients. In this sense, there is a set of principles for intervention that may guide program planning (DGIDC, 2007):

- Culturally sensible;
- Cover all types of psychoactive substances;
- Provide information on legal and social consequences inherent to the consumption of psychoactive substances;
- Pro-active;
- Continuous and long term;
- Tailor approach strategies to a target group;
- Team composed of qualified professionals with expertise in the topic
- Innovative and multifaceted.

Within the scope of PNRCAD, prevention includes dissuasive mechanisms, risk reduction, treatment and reinsertion, and should be adequate for every stage of life (Feldman, 2005, cited by SICAD, 2013):

- Pregnancy and infants up to 3 months old – prevention focuses on the risks and impact of substance use on gestation, together with raising awareness on the influence of these substances on fetal and new-born development.
- Childhood (from 3 months until 9 years of age) – time prior to the first contacts with substances, being a moment of changes and, consequently, a target for awareness of parents and educators, empowering them with knowledge and skills that instigate the development of protective factors from an early age.
- Pre-adolescence and adolescence (10-24 years old) – this affirmation stage might bring up certain behaviours such as the use of psychoactive substances, therefore the preventive responses must focus on reinforcing individual, familiar and social protective factors.
- Adults between the age of 25 and 64 – the most active stage of the life cycle, both in terms of affective relationships and working ability, autonomy, family project, creating an opportunity for differentiating interventions according to diverse contexts, and articulating with social stability, or lack thereof.
- Adults over 65 years– transition to retirement, assuming a reformulation of life projects, intervention should include the promotion of regular participation in activities.

These guidelines focus not just on intervening transversely in the citizen's way of life, keeping in mind all the issues across life stages, but also work towards creating an intervention that follows rational and sustainable criteria so that governmental and non-governmental structures can devise a plan (by selecting competences and technical and human means).

4. Cross-cutting interventions

These interventions invariably arise as being required in every stage of intervention, regardless of the population or context they are directed towards, creating a basis to sustain all the approaches assigned for each stage of the life cycle (SICAD, 2013):

1. Improve the knowledge and articulation from response networks;
2. Make people aware and endow them with skills to assume preventive functions in their community;
3. Incite the production of scientific knowledge that reinforces the quality of preventive intervention, promotes efficiency and influences decision making;
4. Instigate the assessment, reflection and sharing of good practices, as basis for action-oriented research;
5. Differentiate preventive messages according to contexts and age ranges;
6. Expand the study and identification of processes and factors that increase the risk of developing additive behaviours;
7. Promote separate responses according to the age range and the levels of risk detected.

5. Intervention contexts

The main contexts that are part of an individual's life include school, work, recreation, university, and the focus of intervention takes into account their underlying dynamics and the behavioural conditioning they impose on the individual.

5.1. School Context

Considering school is an important socializing environment, and consequently, an ideal space for detection of potential risk factors, an approach on this level must be focused on the existence of psychoactive substances as a reality that must be faced together, with the youth's active participation. Intervening in this context must consist of spaces and periods of prevention during school hours, with well-prepared teachers and other educators.

Thus, there must be a set of principles to guide a preventive approach such as this (DGIDC, 2007):

- Involve the family and community;
- Prioritize the age range of 11 to 14 years old;
- Promote personal and social life competences;
- Use interventive strategies;
- In elementary school, academic and socio-emotional lessons must be promoted: self-control, emotional consciousness, communication, problem solving and so on.

Preventive action can then include universal, selective or targeted interventions, already implicating different approaches, but still demanding:

- Critical thinking promotion;
- Comprehension of consumption risks;

- Not blaming the individual, but rather their behaviour

5.2. University Context

Consumption of psychoactive substances when enrolling on a higher education degree may have an initially adaptive role (with a strong ritual component) and, by the time of graduation, this consumption might instead work as a stress reliever or adjournment. However, the use of substances that enhance academic performance should also be given special attention. In terms of intervention, a suitable target should be academic parties.

5.3. Work Context

While some companies perform drug control just to ensure better productivity and safety in the workplace, others do it also in order to detect cases, guide them and provide access to treatment, should the employee accept and wish to do so. Many companies consider this to be their social responsibility towards their employees and society in general. Workplaces are excellent to deal with addictions since they cover all of the active population and, in truth, employers do have the right to require their employees to work without the influence of any substance. The National Data Protection Committee cooperated with both the Institute of Drugs and Addiction (IDT) and the Authority for Workplace Conditions, in order to develop the protocol "Risk prevention in the workplace" by creating guidelines for the prevention of psychoactive substance use in the workplace, which was approved in June 2010 and revised in 2011 (IDT, 2011).

5.4. Recreational Context

Intervening in this context must include the formation of intervention teams articulating with non-governmental organisations, health partners, municipalities, student associations, raising awareness in nightlife businesses in order to adopt risk reducing measures (namely alcohol consumption laws), night transport availability, smartphone apps, among many others.

6. Final Considerations

Through this article we tried to contribute to the discussion on how to intervene towards the prevention of additive behaviours as a vehicle for MH promotion. To this end, we considered it important to describe MH and present its vulnerability in individuals who use psychoactive substances. As mentioned, preventive intervention will have to be based on both comprehensive and social influence models, and focusing on individuals throughout their whole life, prioritizing school, work and leisure contexts.

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