

**EARLY AGE OF ONSET OF DRUG USE IN PARAGUAYAN CHILDREN AND ADOLESCENTS: A PUBLIC HEALTH CHALLENGE***EDAD TEMPRANA DE INICIO DE USO DE DROGAS EN NIÑOS Y ADOLESCENTES PARAGUAYOS: UN DESAFÍO DE SALUD PÚBLICA***Julio TORALES<sup>1</sup>, Israel GONZÁLEZ<sup>2</sup>, João CASTALDELLI-MAIA<sup>3</sup>, Marcela WAISMAN<sup>4</sup>, Antonio VENTRIGLIO<sup>5</sup>.**

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**ABSTRACT**

The age of onset of legal and illegal drugs use is a crucial variable in the mental health field. It enables clinicians and researchers across the world to try to predict the lifetime risk of substance use disorders, mental illness and social adaptation, and to tailor prevention strategies and early interventions to address these entities. The use of legal or illegal drugs during childhood and adolescence has been linked to a vast range of bad outcomes by different authors. The effect of substance use seems to include not only health-related issues, but it also has long-term negative social implications that affect the livelihood of the individuals. Early initiation of legal and illegal drug use is a social epidemic in Paraguay (South America). In this brief piece, we aim to present the few studies done in the country showing an extremely early age of onset of drug use and to provide some arguments for why this data should be of concern for policy makers in the country.

**Keywords:** Age of onset; Drug use; Children; Adolescents.

**RESUMEN**

La edad de inicio del consumo de drogas legales e ilegales es una variable crucial en el campo de la salud mental. Permite a clínicos y a investigadores de todo el mundo intentar predecir el riesgo vital de trastornos por uso de sustancias, enfermedad mental y adaptación social, y a diseñar estrategias de prevención e intervenciones precoces para hacer frente a estas entidades. El uso de drogas legales o ilegales durante la infancia y la adolescencia ha sido asociado a un vasto rango de malos resultados por distintos autores. El efecto del uso de sustancias al parecer incluye no sólo resultados relacionados con la salud, sino que posee también implicancias sociales negativas a largo plazo que afectan el sustento de los individuos. El inicio temprano del uso de drogas legales e ilegales es una epidemia social en Paraguay (Sudamérica). En este breve artículo, nuestro objetivo es presentar los pocos

estudios realizados en el país que muestran una edad extremadamente temprana de inicio del consumo de drogas y proporcionar algunos argumentos sobre por qué estos datos deberían ser motivo de preocupación para los responsables de la formulación de políticas en el país.

**Palabras clave:** Edad de inicio; Uso de drogas; Niños; Adolescentes.

## DRUG USE IN PARAGUAY

Early initiation of legal and illegal drug use is a social epidemic in Paraguay. According to data provided by the *Observatorio Paraguayo de Drogas (OPD)*, 58.9% of high school students in the country have consumed alcohol in their lifetime, 22.6% have consumed tobacco, and 5.7% admitted to marijuana use (1).

Riego-Meyer et al. published a study in which they reviewed the clinical records of children and adolescents who received treatment in the Detoxification Unit of the National Center for Addiction Control (UDP CNC). This study showed that the first legal drug used by adolescents was tobacco (95%), and the first illegal substance used was marijuana (59%), closely followed by volatile substances (23%), which is particularly cheap and widely available for children living and working in the streets. They also analyzed the illegal substance of preference for these patients and found that crack was the preferred drug with 58%; followed by marijuana with 28% of preference. Despite this, only 12% of these patients reported using crack as their first illegal substance used. This could be explained, perhaps, because of the easiness with which marijuana can be obtained and because of the increased acceptance of its use in the Paraguayan society. Finally, the most striking finding of this study was the age of onset of first drug use. For legal drugs, it was 11.5 years old, while for illegal drugs, the age was 12.2 (2).

Torales et al. re-visited this phenomenon and found, a year later, that the mean age of onset of use of legal substances was 10.8 years (range: 7-13 years) and the mean age of onset of use of illegal substances was 11.4 years (range: 8-14 years). In addition, in the case of psychiatric comorbidity, such as attention-deficit/hyperactivity disorder, the mean age of onset of use of legal substances was even lower (9.8 years); with a similar mean age of onset of use of illegal substances (11.5 years old) (3). These figures show that for patients with substance use disorders in Paraguay, age of first use is markedly earlier.

In the OPD study, which used self-completed questionnaires given to high school students regardless of substance use status, the age of initiation was higher, with a mean of 13.7 for alcohol and tobacco, and 14.8 for marijuana (1).

These figures suggest that earlier age of first use could be associated with a higher risk of developing a substance use disorder, but further, larger studies should be done in the future to confirm this hypothesis.

## AGE OF ONSET, WHY DOES IT MATTER?

The use of legal or illegal drugs during childhood and adolescence has been linked to a vast range of bad outcomes by different authors. The effect of substance use seems to include not only health-related issues, but it also has long-term negative social implications that affect the livelihood of the individuals.

## Social outcomes

In many studies, the use of drugs, especially tobacco, has been linked to a reduced prospect of furthering formal education (4, 5). Children and adolescents involved in drug use are less likely to finish high school, to enroll in university and to attain a degree (6, 7). In Paraguay, 60% of children and adolescents involved in drug use have school failure and drop out of school (8). This is especially important because educational milestones are associated with better health (9) and they are a primary driver of economic growth and stability for individuals (10).

Adolescents who use drugs are expected to achieve inferior occupational and job quality outcomes as much as 10 years after high school (11) meaning that even when they manage to find jobs, their incomes and benefits tend to be inferior to those attained by non-users. A 39-year longitudinal cohort study concluded that heavy cannabis use in adolescence was related to a heightened risk of labor market exclusion (12). Another longitudinal study in Norway found that use of cannabis is linked with future need of social welfare assistance (13).

Relationships are another area where early drug use can have a harmful impact. Drug use in adolescence increases the likelihood of never marrying (14) or having children before out of wedlock (15, 16).

Among early users who become involved in relationships in adulthood, studies have found that intimate partner satisfaction, cohesion and harmony are lowered and that there tends to be more conflict in these relationships (17).

Early drug use has been consistently linked to delinquency in adolescence and in adulthood. Some authors hypothesize that the reduced inhibition secondary to drug use leads to an increase in delinquent conduct including theft, vandalism and aggression (18). Furthermore, 75% of Paraguayan adolescents with substance abuse have problems with justice (8). This is in line with other authors that have suggest that teenagers with substance use disorder before the age of 16 have a fourfold increase in the probability of incarceration for offenses related to substances. They are also more likely to be convicted of offenses not related to substance use, and, in general, have more negative interaction with the criminal justice system in the form of arrests and convictions (19).

## Health-related outcomes

Evidence shows that early age of initiation of heavy drug and alcohol use is a good predictor of difficulties with substances in the future (20, 21). A 15-year prospective cohort study in Australia showed that adolescents who binge drink continue to do so in adulthood (22).

Early use of cannabis and other illegal drugs increases the likelihood of using harder drugs like cocaine in adulthood (23). In Paraguay, authors have found that the use of cannabis during childhood increases the likelihood of using both cocaine and crack at the beginning of adolescence (2, 3). It has been estimated that 9% of cannabis users will become addicted. The risk increases to approximately 16% in those who start using in adolescence. Lifetime risk for other drugs is 32% for nicotine, 23% for heroin, 17% for cocaine, 15% for alcohol (24).

A summary of adverse health effects would be out of the scope of this piece, but they range from acute cardiac crisis due secondary to cocaine intoxication and respiratory depression resulting from opioid overdose, to long-term effects such as liver failure, nephropathies and cardiopathies after exposure to drugs for a long period (25).

### **MENTAL HEALTHCARE IN PARAGUAY**

In Paraguay, mental health is mostly excluded from private insurance plans and is available through a limited supply of public services. The country has only a single specialized center for people with substance abuse disorders. Furthermore, the country lacks a Mental Health Law which means that the rights of individuals with psychosocial problems, mental disorders, including substance use disorders, are not well looked after, leading to further stigma, discrimination and marginalization. This is even worse for the children and adolescent population (8).

Mental health legislation can provide a legal framework to address key issues such as the provision of quality care, access to such care, protection of civil rights, and protection and advocacy in other key areas such as housing, education and employment (26). Access to mental healthcare in Paraguay must be further developed using a human rights framework linking it with improving quality of life for all citizens, especially children and adolescents. Such an approach means that potentially powerful barriers and interests must be questioned and contested wherever appropriate and that political and economic priorities must change drastically (8).

### **CONCLUSION**

It is becoming very clear that early initiation of drug use puts children and adolescents in an unhealthy trajectory from a social and a health-related standpoint.

In Paraguay, the studies by Riego-Meyer et al. and by Torales et al. are alarming because there are many variables that still need to be explore regarding the effect that legal and illegal drugs will have in the nervous system of Paraguayan children and adolescents. The rise in high school dropouts, rates of unemployment and delinquency, and the short- and long-term effects that arise from early onset of drug use makes substance use in childhood and adolescence a concerning public health issue in Paraguay in particular, and in Latin America as a whole (2, 3).

The sample size of the above-mentioned studies clearly limits the generalizations that can arise from the data. Therefore, the challenge would be to perform larger studies, in coordination with governmental institutions, in order to design health and education evidence-based policy and legislation to keep children and adolescents away from drugs at an early age and to make sure that those with substance disorders receive the medical and psychosocial care they need.

### **CONFLICTS OF INTEREST AND FUNDING**

Conflicts of interest: none. Funding source: none.

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