



# RELATION BETWEEN FAMILY HISTORY OF SUBSTANCE USE, CO-OCCURRING MENTAL HEALTH DISORDERS, HISTORY OF EMOTIONAL, PHYSICAL OR SEXUAL ABUSE AND ADVERSITIES, AND TREATMENT RESPONSES AND OUTCOME

IMPLICATIONS FOR PUBLIC HEALTH AND DRUG POLICIES

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*Vienna 18 of March, 2019*

*This is a preliminary draft of an ongoing study conducted by the Association Proyecto Hombre and KETHEA. We would like to acknowledge the technical support from the United Nations Office on Drugs and Crime.*

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# 1. INTRODUCTION

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Substance Use Disorders (SUDs) constitute a public health and security problem both in developed and developing countries. Nowadays, scientific evidence has established that drug dependence is a chronic, complex, multifactorial biological and behavioural disorder. Its onset and development is affected by the interplay of personal, social and environmental vulnerabilities. Reinforcing prevention and treatment efforts for people with SUDs is therefore a demand reduction strategy of critical importance for public health.

The United Nations Office on Drugs and Crime's (UNODC) and the World Health Organization's (WHO) International Standards for the Treatment of Drug Use Disorders encourage all Member States to consider expanding the coverage and improving the quality of drug treatment programmes, interventions and policies based on scientific evidence. These International Standards recommend comprehensive and balanced approaches, and the use of science- and human rights-based treatment modalities such as outreach working, and outpatient and residential programmes.

In December 2016, at the end of an intense deliberative process a group of about 150 experts on Therapeutic Communities produced the Declaration of Majorca, a document intended to provide a 10-year action plan for improving SUDs interventions worldwide. UNODC was invited as observer. The Declaration of Majorca was eventually adopted by all members of the World Federation of Therapeutic Communities, including its regional federations. Among other essential commitments, the declaration advocates the promotion of research and the use of evidence-based practices, inviting all parties concerned to collaborate more closely with partners in academia and research.

The Association Proyecto Hombre (Spain) and KETHEA (Greece) are non-governmental organizations based on the Therapeutic Community treatment model and having both a solid background in research. With the collaboration of the Prevention, Treatment and Rehabilitation Section of the United Nations Office on Drugs and Crime they agreed to initiate a pilot study aimed at investigating the interplay between different dimensions of vulnerability conditions on the severity of addiction.

These vulnerabilities range from the pattern and history of drug and alcohol use in the family, to existence of family and social support, co-morbid mental health disorders, history of physical, emotional or sexual abuse, and more. At the same time, the study intends to understand the role these vulnerabilities could play on the course of the treatment response.

In the years to come, the purpose of this study is to evolve and gain global representativeness. Therefore, it is expected that other organizations located in other regions of the world will join the project.

The study's preliminary results are for the first time being presented at the special event *Evidence-Based Treatment and Therapeutic Communities as an Integral Part of the Health System* held at the 62<sup>nd</sup> Session of the Commission on Narcotic Drugs, on the 18<sup>th</sup> of March, 2019 at the Vienna International Centre.

We firmly believe that national and regional governments, international organizations and civil society should better understand the reality and needs of people with SUDs in order to design and implement the most appropriate interventions.

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*The opinions expressed in this article are those of the authors and not necessarily those of the United Nations Office on Drugs and Crime.*

## 2. ASSOCIATION PROYECTO HOMBRE, KETHEA AND THE RESEARCH STUDY

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The Association Proyecto Hombre is a non-governmental organization in Special Consultative Status with the United Nations Economic and Social Council (ECOSOC) that brings together and supports 27 Spanish foundations with more than 220 facilities based on the Therapeutic Community treatment model and working in the fields of drug prevention, rehabilitation and social reintegration, adapting to the current needs and the most vulnerable populations. Since 1984, Proyecto Hombre assisted over 35000 people with SUDs and their families with more than 220 facilities across the country.

KETHEA is also an NGO in special consultative status with ECOSOC and one of the principal bodies in charge of the implementation of the Greek national strategy on drugs. KETHEA is the largest network of addiction treatment rehabilitation and social reintegration services in Greece. It has been supporting drug users and their families since the foundation of the first Therapeutic Community in the country back in 1983.

KETHEA offers its services within community prison and residential settings, and has the capacity to respond to clients with a variety of needs and profiles, including adults and adolescents, parents, immigrants, refugees, inmates and former inmates, whether they be concerned with substance-related disorders, pathological gambling or problematic Internet use, at every stage of the recovery process. KETHEA offers a comprehensive, recovery-oriented and drug-free continuum of services focused on helping people adopt new ways of living that enable them to become engaged and productive citizens. All services are free of charge. The organization also conducts school- and community-based prevention and early intervention programmes and is active in addiction-related research and training.

This research report contains a first draft of the design and results of a study conducted with a sample of people undergoing treatment in the facilities of KETHEA and Proyecto Hombre Association.

They actually have a wide and proven experience in the field of research. For example, Proyecto Hombre has been conducting for over six years a follow-up study on the various profiles of people undergoing treatment, with samples of more than two thousand participants in each edition, and using the EuropASI instrument to gather information. This follow-up study has been endorsed and partially funded by the Spanish Ministry of Health, Social Services and Equality.

The objective of this investigation is to analyse the association between family history of substance use, co-occurring mental health disorders and history of emotional, physical or sexual abuse, and the severity of drug dependence (ASI total score/

domain) and Treatment outcomes (UNODC, 2018 [a]).

Our main hypothesis is that there is a determining relationship between the abuses suffered, the family history (alcohol, drug or psychiatric disorders) and the development of SUDs.

Our research questions were:

■ **RQ 1: Association between:**

Family History of Substance Use, Co-occurring Mental Health disorders, History of emotional, sexual and physical abuse associated and **ASI scores at baseline.**

■ **RQ 2: Association between:**

Family History of Substance Use, Co-occurring Mental Health disorders, History of emotional, sexual and physical abuse associated and **completion of 12 month treatment plan.**

■ **RQ 3: Association between:**

Family History of Substance Use, Co-occurring Mental Health disorders, History of emotional, sexual and physical abuse associated and **change in ASI after completion of TC plan.**

■ **RQ 4: Association between:**

Family History of Substance Use, Co-occurring Mental Health disorders, History of emotional, sexual and physical abuse associated and **change in ASI score.**

■ **RQ 5: Association between:**

Family History of Substance Use, Co-occurring Mental Health disorders, History of emotional, sexual and physical abuse associated and **change in ASI score as treatment outcome.**

The following pages provide a description of the “European Addiction Severity Index”, i.e. the information-gathering instrument, a description of the therapeutic community treatment model, an analysis of the personal variables playing a role in the development of addictive disorders, and the key findings from the analysis of these variables.

### 3. INSTRUMENT AND INFORMATION GATHERING

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EuropASI is the European version of the 5th edition of ASI (Addiction Severity Index) developed in the United States by McLellan (1990). The ASI was initially created in 1980 at the University of Pennsylvania with the aim of providing a clinical evaluation of patients with substance use disorders (including alcohol), thus providing the basis for the initial treatment plan or helping the healthcare provider make referral decisions, as well as for research purposes.

This basic tool for clinical practice allows for a multidimensional diagnosis of addiction problems, assessing their severity in a bio-psychosocial context. It provides a profile of the patient in different areas of their life, thus enabling a comprehensive diagnosis and facilitating the planning of the therapeutic intervention deemed most appropriate for each patient.

The Clinical Commission of the Government Delegation for the PNSA recognizes the validity of EuropASI in one of its reports: "In order to achieve high levels of standardization that allow the research activity, we use high quality scales that have been translated, adapted and validated into Spanish. One of them, known as EuropASI, Europe Addiction Severity Index (and its Spanish version), has been the largest reference since its publication. Issuing originally from the Addiction Severity Index, an instrument designed by McLellan and Cols in 1980, it has been adapted to other languages and cultures of the European Union, in a commendable convergence effort to enable comparison purposes between national, European and American data."

It is also very useful as an investigation of added data. EuropASI was actually an adaptation carried out by a group of researchers whose intention was to design a tool enabling comparisons between patients suffering from alcohol and other drug disorders in different European countries. The instrument explores the various aspects in the patients' lives that may have contributed to the emergence and development of a substance abuse syndrome.

Specifically, EuropASI explores the following potentially problematic areas of life:

- General information  
*Demographic questions and history of previous arrests or medical treatment*
- Medical status  
*Hospitalization history/ medication history and problems / disability*
- Chemicals abused (alcohol / drug use)  
*Lifetime and last 30 days use / polydrug use/ problematic*

*substance per patient rating / alcohol and drug morbidity and treatment history/ self-evaluation of drug and alcohol problem in last 30 days*

- Employment/support  
*Education/ (un)employment/ availability of and reliance on support/ dependents/*
- Family / social relationships  
*Marital status / living arrangement / relationships availability, rating and importance/ current and lifetime problems and conflict with family members, friends, neighbours and co-workers/ Family history of substance use*
- Legal status  
*History of arrests by charge/ history of convictions / driving under the influence and other driving violations/ illegal activities*
- Psychiatric / psychological status  
*Mental health treatment lifetime and/or current*

The interview is conducted by a staff member. The gathering of information for the initial EuropASI is done within 30 days after the patient has entered the treatment programme and achieved necessary abstinence.

A second follow-up interview has been conducted 12 months after the onset of treatment.



## 4. THE THERAPEUTIC COMMUNITY

Therapeutic Communities (TCs) are one of the most common and widely available treatment models for people suffering from substance abuse. Since the first TCs were founded in the 1950s, they have been adapted to address specific vulnerable groups such as women, children and adolescents, offenders, ethnic minorities, or people with co-occurring disorders, while they were increasingly integrated in the public health and social welfare systems.

A set of educational and therapeutic interventions enable TC residents to modify their habits and thought patterns and to become more adept at managing their emotions, with a view to overcoming their substance use disorder and becoming active members of society.

TC researchers and theorists have provided a number of definitions which may help us better understand the model's theoretical framework and its functioning:

'A therapeutic community is a drug-free environment in which people with addictive (and other) problems live together in an organized and structured way in order to promote change and make a drug-free life in the outside society possible' (Broekaert et al., 1993).

'The fundamental distinction of the therapeutic community is that it utilizes community as method in addressing the substance abuse and social and psychological problems of the individual. The TC teaches the resident to use the community to help themselves' (De Leon, 1997).

'A group of people living together; intimate, informal relationships; regular and frequent sharing of information between all group members; a shared commitment to the goal of learning from the experience of living and/or working together; a shared commitment to the open examination and resolution of problems, tensions and conflicts within the group; a psychodynamic awareness of individual and group process and a clear set of boundaries concerning time, place and roles' (Kennard, 1994).

'The TC forms a miniature society in which residents, and staff in the role of facilitators, fulfil distinctive roles and adhere to clear rules, all designed to promote the transitional process of the residents. Self-help and mutual help are pillars of the therapeutic process, in which the resident is the protagonist principally responsible for achieving personal growth, realizing a more meaningful and responsible life, and of upholding the welfare of the community. The program is voluntary in that the resident will not be held in the program by force or against his/her will' (Ottenberg et al., 1993).

'The term Therapeutic Community has been linked to a range of treatment traditions and approaches that all share the idea of using the relationships and activities of a purposefully designed social environment or residential treatment setting to promote social and psychological change...The key distinctive characteristic of the TC is the use of the community itself as a fundamental change agent ('community as a method'). There are a number of defining features of the 'community as method' approach, including the use of a range of structured activities in which both staff members and residents are expected to participate and the use of peers as role models who set a positive example and demonstrate how to live according to the TC's philosophy and value system' (Vanderplasschen, 2014).

Then, the treatment consists in the evaluation, adjustment and supervision of the areas: behavioural, cognitive, affective, neurological, family, social, academic and work.

Among the main tools of intervention are confrontation, self-help and feedback. Among the activities that are carried out are individual and group activities (Rueda & Rueda, 2011).

Figure 1.  
Therapeutic Community individual tools.





Figure 2.  
Therapeutic Community group tools.

SELF-HELP GROUP	PROGRAMMING GROUP	EXTENSIVE GROUP
HISTORICAL GROUP	PROBE GROUP	THEMATIC GROUP
STRUCTURE OF THE COMMUNITY ITSELF	COEXISTENCE	TRAINING WORKSHOPS
OCCUPATIONAL WORKSHOPS	LEISURE ACTIVITIES AND FREE TIME	FAMILY TRACKING GROUP
FAMILY MEETING GROUP	MIXED MULTI-FAMILY GROUP	EMOTIONAL MANAGEMENT GROUP

The main purpose and fundamental targets of the Therapeutic Community are to facilitate the maturation and self-knowledge environment (Rueda & Rueda, 2011):

- Encourage the connection to and integration in the Community.
- Reinforce healthy and socially responsible living habits.
- Get the user to become aware and take responsibility for their behaviour.
- Promote awareness and proper management of feelings and emotions.
- Encourage experimentation and internalization of values.
- Academically and/or professionally educate users.
- Strengthen the process of re-socialization.
- Integrate the family in the user's process of change as a fundamental factor of an adequate social and family adaptation.

It is a method which has been validated and proven internationally (NIDA, 2015; Vanderplasschen, Vandeveld & Broekaert, 2014; Vanderplasschen, Colpaert, Autriquem et al., 2013; De Leon, 2010).

## 5. SAMPLE

The sample originally consisted of 212 cases but it was reduced to 202 cases after examining and removing the ASI questionnaire that did not meet the research criteria or did not contain the information necessary.

The people included in the research had undergone a treatment programme in KETHEA's and Proyecto Hombre's TCs in 2017 and the EuropASI's dual interviewing modalities were administered to all cases, i.e. at the onset of the treatment programme and after completion of the programme, as a follow-up.

A more detailed description of this treatment resource can be found in the Therapeutic Community section of this document.

Firstly, a sociodemographic analysis was carried out by country of origin, gender, age, academic degree and substance representing the major problem as shown in the following figures (fig. 3 to 7).

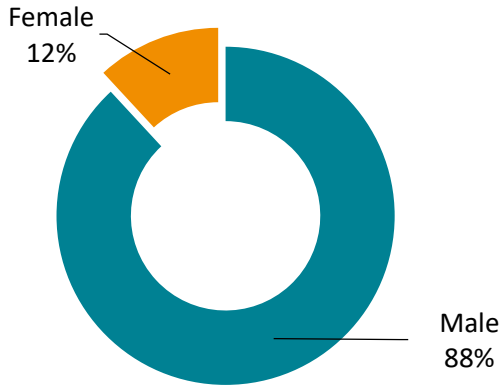
### A. COUNTRY

Figure 3.  
Country  
(n=202)



## B. GENDER

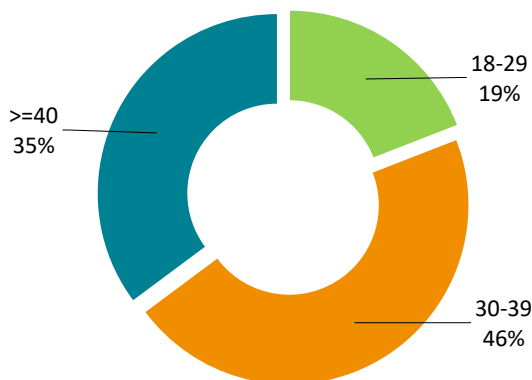
Figure 4.  
Gender  
(n=202)



The sample of Greek population has fewer women than the Spanish one (n=9vs.n=15). However, in both cases the percentage of women in treatment (whole simple: 11.88%) is significantly lower than that of men. This fact is common among substance abusers since women have to face a “double struggle” (for having addiction problems and for being females in a male-dominated society) that hinders their ability to access the services they need (family, work, etc.) (UNODC, 2018 [b]).

## C. AGE

Figure 5.  
Age ranges  
(n=199)



Average age: 37.07 years. Min.19 years/Max 66 years.  
Initial EuropASI.

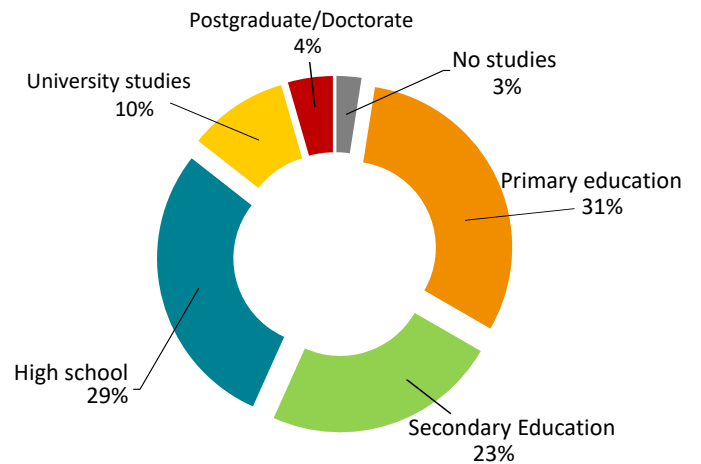
Regarding age, the Spanish (average: 38.82y.) sample was somewhat older than the Greek one (average: 34.31y.), and the women (average: 41y.) were older than men (average: 36.88 y.).

Regarding the relationship between age and country of origin, there is a statistically significant relationship ( $\chi^2= 10.823$ ;  $p= 0.004$ ) that leads to affirm that in the case of Spain, people in treatment will be older, which may be associated with more years of substance use and, therefore, higher deterioration.

## D. ACADEMIC DEGREE

As can be seen in figure 6, the highest percentage of the sample has only primary studies.

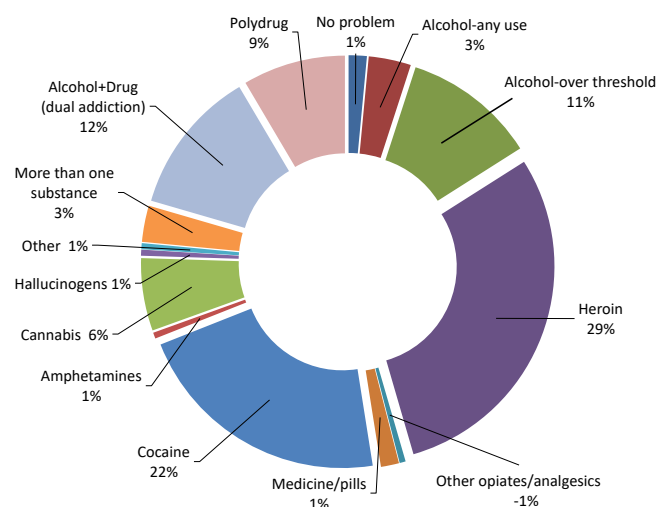
Figure 6.  
Highest level of education attained  
(n=201)



Self-reported by patient.  
Initial EuropASI.

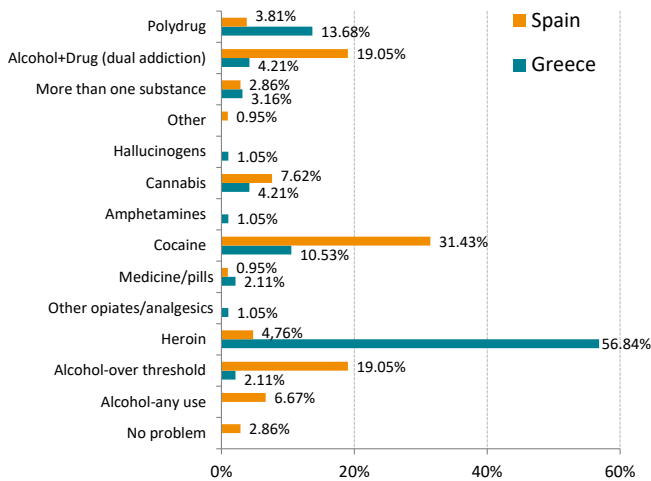
## E. DRUG(S) OF CHOICE

Figure 7.  
Substance perceived as being the main problem  
(n=200)



Self-reported by the patient.  
Initial EuropASI.

Figure 8.  
Substance perceived as being the main problem by country.  
(n=200)



Self-reported by patient.  
Initial EuropASI.

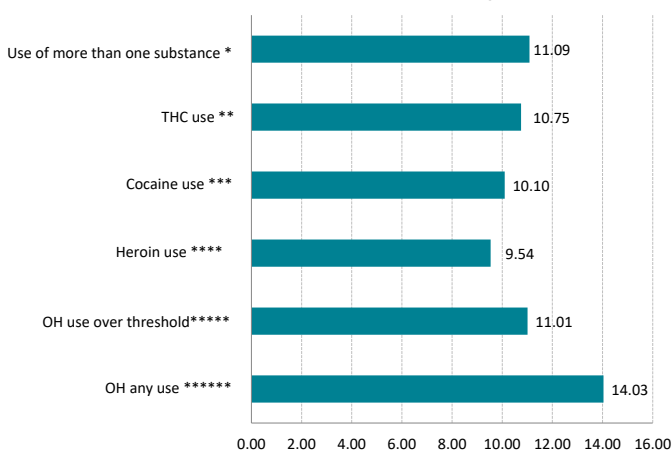
As can be observed in Figure 8, people in the Spanish sample consume more alcohol and cocaine while those in the Greek sample consume more heroin or use more than one substance at the same time.

In order to assess whether this fact was a problem with regard to the homogeneity of the sample, the calculations were carried out for the entire sample and returned to extract the cases of heroin use.

There was no statistically significant difference.

## F. YEARS OF SUBSTANCE USE

Figure 9.  
Lifetime use of substances in years



\* n=69 / \*\* n=152 / \*\*\* n=135 / \*\*\*\* n=105 / \*\*\*\*\* n=109 / \*\*\*\*\* n=145

Self-reported by patient.  
Initial EuropASI.

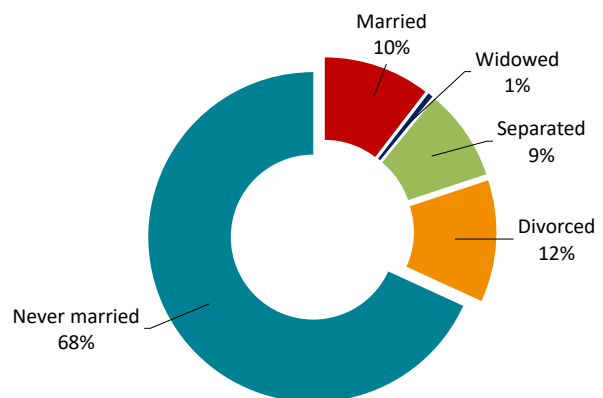
## G. ONSET OF SUBSTANCE USE

As the onset age of substance use vary, attention was paid to the intervals with highest values. Thus, for alcohol at any dose the age of onset is between 12 and 16 years; for alcohol over threshold between 16 and 18 years, although a significant number of people started at age 13; in the case of heroin, 17-18 years; cocaine 16-20 years; cannabis 13-17 years and more than one substance 15-18 years.

According to the most numerous group, the onset ages would be: alcohol at any dose 16 years (n = 30), alcohol over threshold 16 years (n = 17), heroin 18 years (n = 15), cocaine 18 years (n = 21), cannabis 14 years (n = 33) and more than one substance 18 years (n = 10).

## H. MARITAL STATUS

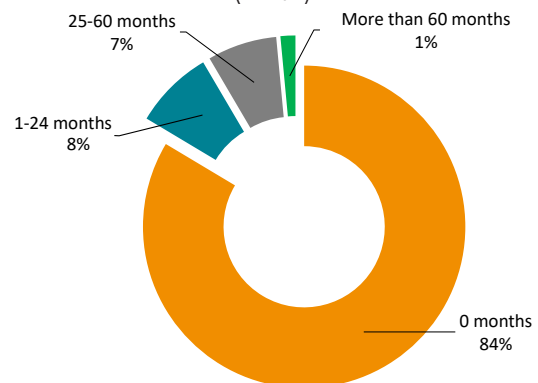
Figure 10.  
Marital status  
(n=201)



Self-reported by patient.  
Initial EuropASI.

## I. MONTHS IN PRISON

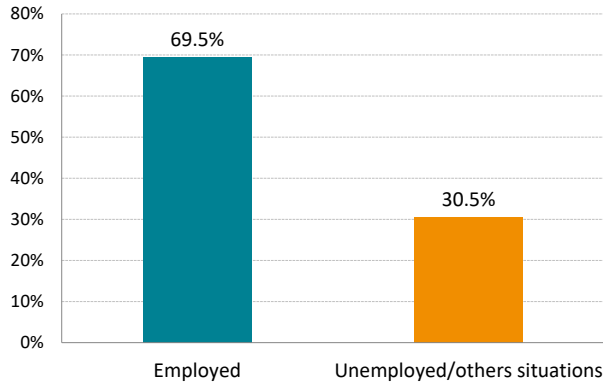
Figure 11.  
Time served in prison  
(n=201)



Lifetime. Average: 5.13 months.  
Self-reported by patient.  
Initial EuropASI.

## J. EMPLOYMENT SITUATION

Figure 12.  
Employment situation  
(n=200)



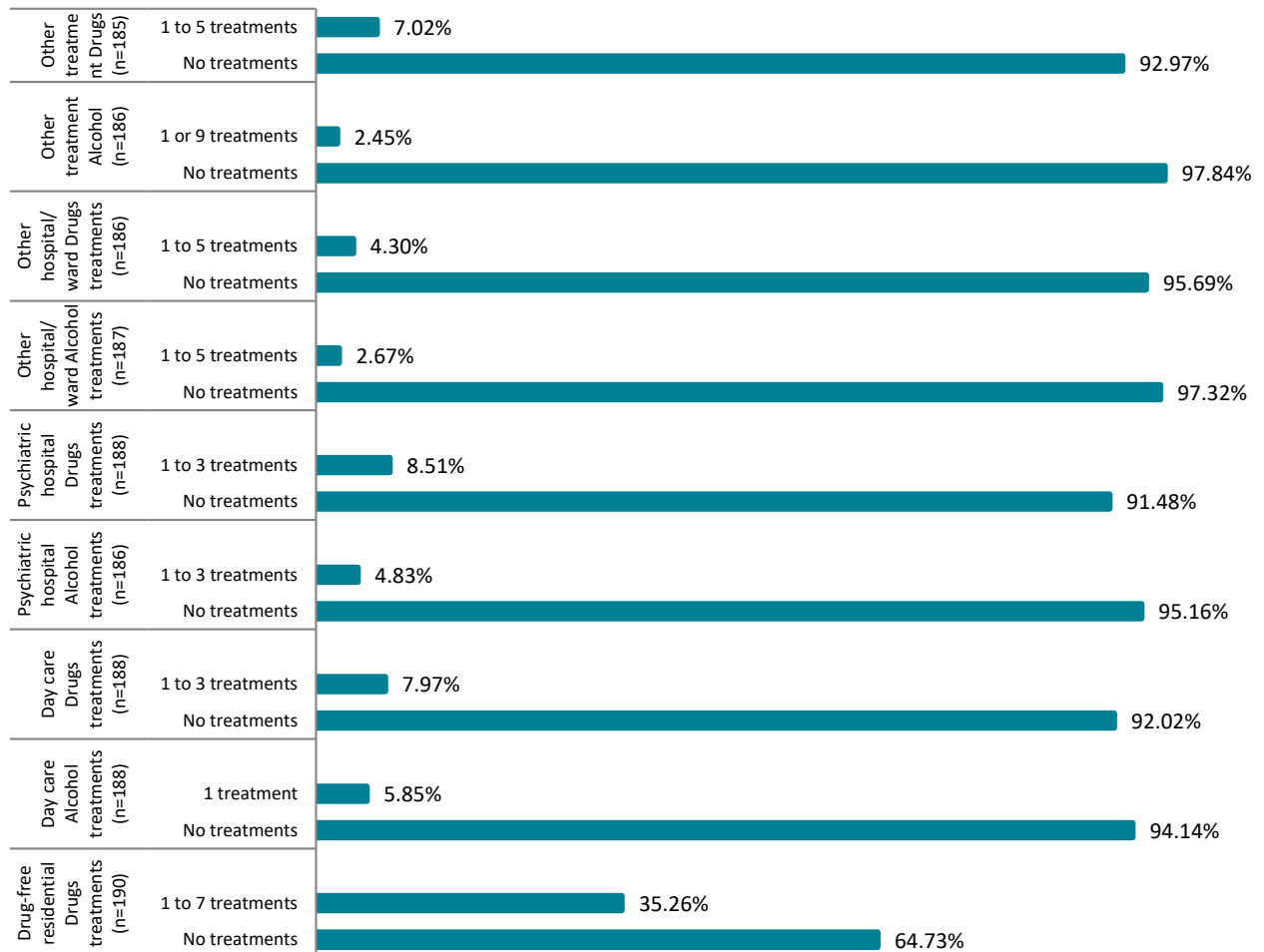
Self-reported by patient  
Initial EuropASI.

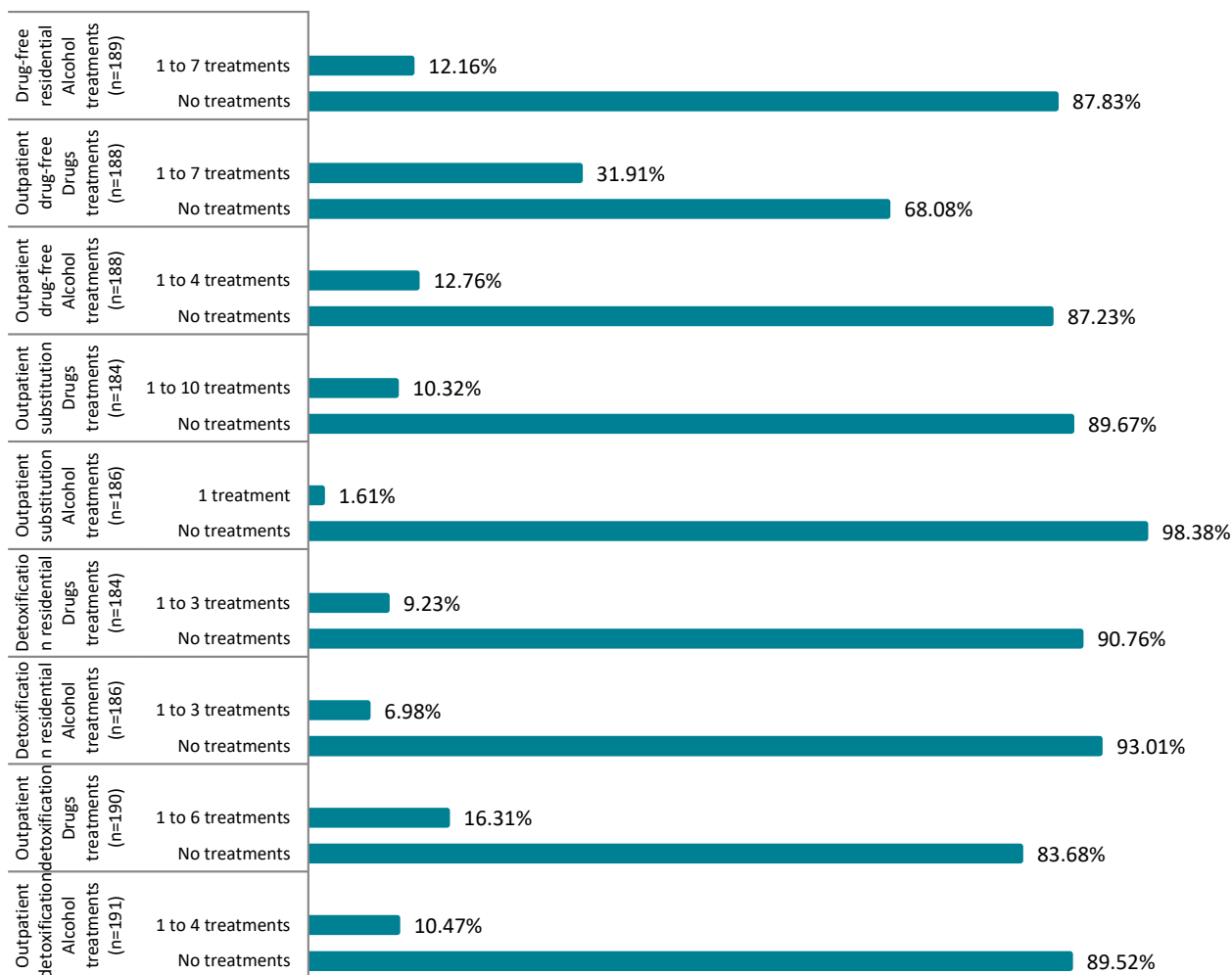
## K. PREVIOUS TREATMENTS

The most frequent previous treatments are those drug free – the most used are residential drug treatment programmes followed by outpatient treatment programmes. (Figure 13).

Regarding the percentage of people who have undergone no previous treatment, it amounts to 22.65% (41 people), and the average number of previous treatment programmes is 4.7.

Figure 13.  
Percentages of previous treatments





Self-reported by patient.  
Initial EuropASI

## 6. RESULTS

### A. SAMPLE SEVERITY INDEXES

The severity indexes are calculated by trained interviewers based on the essential items of the EuropASI as described in table 1.

The average severity indexes for our sample are those exposed in table 2. The interval values to determine addiction severity are between 1 (not severe / no indication for treatment) to 9 (severe problems / treatment is deemed highly necessary).

In order to establish the severity interval, it was decided to regroup severity values in 2 intervals (from 0 to 6 and from 7 to 9). The scale ranges from 0 (no treatment necessary) through 9 (treatment required due to life-threatening situations).

The scores of the areas can be seen at tables 1 and 2.

Table 1.  
Areas Scores Intervals<sup>1</sup>

	0-6	7-9	n
<i>Medical Status</i>	87.00%	13.00%	200
<i>Employment/Support Status</i>	76.88%	23.11%	199
<i>Alcohol Use</i>	69.30%	30.69%	202
<i>Drug Use</i>	40.50%	59.50%	200
<i>Legal Status</i>	86.00%	14.00%	200
<i>Family/Social Relationships</i>	57.50%	42.50%	200
<i>Psychiatric Status</i>	65.62%	34.37%	192

Table 2.  
Areas Scores Averages

	n	Mean	SD
<i>Medical Status</i>	200	2.97	2.703
<i>Employment/Support Status</i>	199	4.33	2.638
<i>Alcohol Use</i>	202	3.92	3.277
<i>Drug Use</i>	200	6.24	2.460
<i>Legal Status</i>	200	2.65	2.881
<i>Family/Social Relationships</i>	200	5.84	2.205
<i>Psychiatric Status</i>	192	4.97	2.609

Since the ASI is not a diagnostic tool, the section related to the psychiatric area is limited to the provision of information about possible problems should be explored in greater depth by a professional. What it does report is the perceived discomfort of the person interviewed as regards the psychiatric area.

## B. RESEARCH QUESTIONS

For the analysis the statistical program SPSS (21.0) was used. A comparison of proportions was made using the  $X^2$  statistic and contingency tables.

### RQ 1: Relationship between:

**Family History of Substance Use, Co-occurring Mental Health Problems, History of associated emotional, sexual and physical abuse and ASI scores at baseline**

#### ■ Family History of Substance Use

According to the relationship between family history of alcohol or other drug use and the severity scores in the different areas, statistically significant differences were found at “Legal status” and “Psychiatric status”. The results can be seen at tables 3 and 4.

<sup>1</sup> All tables must be read horizontally from left to right.

Table 3.  
Family History use Alcohol/Drugs and Areas Scores.  $\chi^2$  comparison

	Area/Score	0-6	7-9	$\chi^2$ (p)
Family History use OH/Drugs NO	Medical Status	90.14% (64)	9.85% (7)	.960 (.327)
Family History use OH/Drugs YES		85.27% (110)	14.72% (19)	
Family History use OH/Drugs NO	Employment/Support Status	79.16% (57)	9.86% (15)	.331 (.565)
Family History use OH/Drugs YES		75.59% (96)	24.40% (31)	
Family History use OH/Drugs NO	Alcohol Use	69.86% (51)	30.13% (22)	.017 (.897)
Family History use OH/Drugs YES		69.99% (89)	31.00% (40)	
Family History use OH/Drugs NO	Drug Use	41.66% (30)	58.33 (42)	.064 (.801)
Family History use OH/Drugs YES		39.84% (51)	60.15% (77)	
Family History use OH/Drugs NO	Legal Status	86.11% (62)	13.88% (10)	.001 (.973)
Family History use OH/Drugs YES		85.93% (110)	14.06% (18)	
Family History use OH/Drugs NO	Family/Social Relationships	66.19% (47)	33.80% (24)	3.407 (.065)
Family History use OH/Drugs YES		52.71% (68)	47.28% (61)	
Family History use OH/Drugs no	Psychiatric Status	74.28% (52)	25.71% (18)	3.663 (.056)
Family History use OH/Drugs yes		60.65% (79)	39.34% (48)	

Table 4.  
Family History use Alcohol/Drugs and Areas Scores. t-test comparison

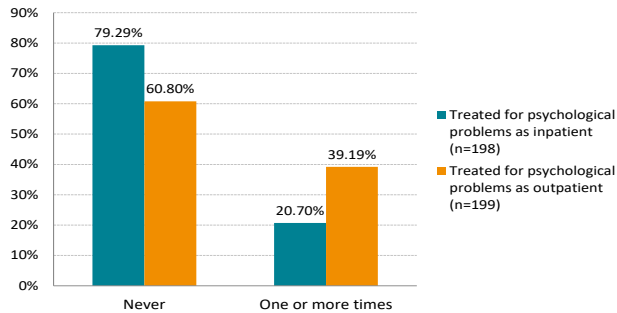
	Area/Score	Means (SD)	t-test (p)	n
Family History use OH/Drugs NO	Medical Status	2.77 (2.57)	-.757 (.405)	71
Family History use OH/Drugs YES		3.08 (2.77)		129
Family History use OH/Drugs NO	Employment/Support Status	4.08 (2.69)	-.980 (.329)	72
Family History use OH/Drugs YES		4.46 (2.60)		127
Family History use OH/Drugs NO	Alcohol Use	3.78 (3.33)	-.456 (.649)	73
Family History use OH/Drugs YES		4.00 (3.25)		129
Family History use OH/Drugs NO	Drug Use	6.10 (2.47)	-.615 (.540)	72
Family History use OH/Drugs YES		6.32 (2.45)		128
Family History use OH/Drugs NO	Legal Status	2.10 (2.93)	-2.052 (.042)	72
Family History use OH/Drugs YES		2.96 (2.81)		128
Family History use OH/Drugs NO	Family/Social Relationships	5.51 (2.22)	-1.556 (.112)	71
Family History use OH/Drugs YES		6.02 (2.17)		129
Family History use OH/Drugs no	Psychiatric Status	4.41 (2.53)	-2.255 (.025)	70
Family History use OH/Drugs yes		5.29 (2.06)		122



■ Co-occurring Mental Health Problems

In most cases, people in treatment report having received no treatment for their psychological problems (figure 14).

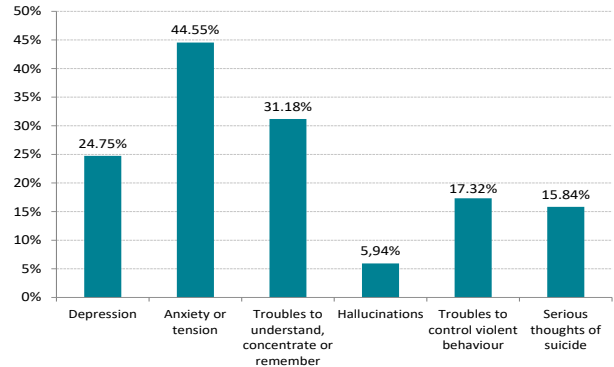
Figure 14.  
Mental health treatments  
(Initial EuropASI)



Regarding mental health problems experienced, people report having experienced a higher percentage of anxiety or tension, followed by comprehension or concentration problems, and depression (figure 15).

People in treatment can choose more than one category in this question

Figure 15.  
Mental health problems experienced  
(Past 30 DAYS)



The relationship between having a family history of psychiatric problems and having a high severity score in the area of family/social relationship is statistically significant ( $\chi^2= 4.470$ ;  $(p)=0.034$ ); The same happens between having a family psychiatric history and having suffered some type of mental pathology (taking into account that in the case of ASI this is self-reported) ( $t= -2.261$ ;  $(p)=0.025$ ). Data can be found in tables 5 and 6.

Table 5.  
Family History of psychiatric problems and Areas Scores.  $\chi^2$  comparison.

	Area/Score	0-6	7-9	$\chi^2$ (p)
Family History psychiatric NO	Medical Status	89.55% (120)	10.44% (14)	2.339 (.126)
Family History psychiatric YES		81.81% (54)	18.18% (12)	
Family History psychiatric NO	Employment/Support Status	80% (108)	20% (27)	2.293 (.130)
Family History psychiatric YES		73.31% (45)	29.68% (19)	
Family History psychiatric NO	Alcohol Use	71.32% (97)	28.67% (39)	.769 (.372)
Family History psychiatric YES		65.15% (43)	34.84% (23)	
Family History psychiatric NO	Drug Use	37.77% (51)	62.22% (84)	1.277 (.258)
Family History psychiatric YES		46.15% (30)	53.84% (35)	
Family History psychiatric NO	Legal Status	87.40% (118)	12.59% (17)	.683 (.408)
Family History psychiatric YES		83.07% (54)	16.92% (11)	
Family History psychiatric NO	Family/Social Relationships	62.68% (84)	37.31% (50)	4.470 (.034)
Family History psychiatric YES		46.96% (31)	53.03% (35)	
Family History psychiatric NO	Psychiatric Status	96.76% (90)	30.23% (39)	2.291 (.084)
Family History psychiatric YES		57.14% (36)	42.85% (27)	

Table 6.  
Family History of psychiatric problems and Areas Scores. t-test comparison

	Area/Score	Means (SD)	t-test (p)	n
Family History psychiatric NO	Medical Status	2.86 (2.68)	-.833 (.406)	134
Family History psychiatric YES		3.20 (2.74)		66
Family History psychiatric NO	Employment/Support Status	4.30 (2.59)	-.178 (.859)	135
Family History psychiatric YES		4.38 (2.75)		64
Family History psychiatric NO	Alcohol Use	3.75 (3.29)	-1.064 (.289)	136
Family History psychiatric YES		4.27 (3.24)		66
Family History psychiatric NO	Drug Use	6.33 (2.31)	.772 (.441)	135
Family History psychiatric YES		6.05 (2.74)		65
Family History psychiatric NO	Legal Status	2.45 (2.86)	-1.405 (.162)	135
Family History psychiatric YES		3.06 (2.89)		65
Family History psychiatric NO	Family/Social Relationships	5.75 (2.13)	-1.016 (.311)	134
Family History psychiatric YES		6.06 (2.34)		66
Family History psychiatric NO	Psychiatric Status	4.67 (2.64)	-2.261 (.025)	129
Family History psychiatric YES		5.57 (2.43)		63

■ **History of emotional, sexual and physical abuse**

There is also a statistically significant relationship between the variable “emotional abuse” and a medium-low score in the medical problems area ( $X^2= 3.969$ ;  $(p)= 0.046/t=-2.067$ ;  $(p)=.040$ ).

The same occurs with the “emotional abuse” variable and a medium-low score in the area of legal status ( $X^2= 7.209$ ;  $(p)= 0.007/t=-3.072$ ;  $(p)=.002$ ), and the “emotional abuse” area and Family/social relationships problems as well ( $X^2= 6.625$ ;  $(p)= 0.010/t=-3.235$ ;  $(p)=.001$ ) or Psychiatric problems ( $X^2= 6.343$ ;  $(p)= 0.012/t=-3.196$ ;  $(p)=.002$ ) (Tables 7 and 8).

Table 7.  
Emotional abuses and Areas Scores.  $X^2$  comparison

	Area/Score	0-6	7-9	$X^2$ (p)
Abused emotionally NO	Medical Status	92.68% (76)	7.31% (6)	3.969 (.046)
Abused emotionally YES		83.05% (98)	16.94% (20)	
Abused emotionally NO	Employment/Support Status	80.48% (66)	19.51% (16)	1.019 (.313)
Abused emotionally YES		74.35% (87)	25.64% (30)	
Abused emotionally NO	Alcohol Use	70.23% (59)	29.76% (25)	.059 (.809)
Abused emotionally YES		68.64% (81)	31.35% (37)	
Abused emotionally NO	Drug Use	48.19% (40)	51.80% (43)	3.484 (.062)
Abused emotionally YES		35.04% (41)	65.95% (76)	
Abused emotionally NO	Legal Status	93.90% (77)	6.09% (5)	7.209 (.007)
Abused emotionally YES		80.50% (95)	19.49% (23)	
Abused emotionally NO	Family/Social Relationships	68.29% (56)	31.70% (26)	6.625 (.010)
Abused emotionally YES		50% (59)	50% (59)	
Abused emotionally NO	Psychiatric Status	75.94% (60)	24.05% (19)	6.343 (.012)
Abused emotionally YES		58.40% (66)	41.59% (47)	

Table 8.  
Emotional abuses and Areas Scores. t-test comparison

	Area/Score	Means (SD)	t-test (p)	n
<i>Abused emotionally NO</i>	<i>Medical Status</i>	2.50 (2.35)	<b>-2.067 (.040)</b>	82
<i>Abused emotionally YES</i>		3.30 (2.88)		118
<i>Abused emotionally NO</i>	<i>Employment/Support Status</i>	4.06 (2.54)	-1.191 (.235)	82
<i>Abused emotionally YES</i>		4.51 (2.69)		117
<i>Abused emotionally NO</i>	<i>Alcohol Use</i>	3.65 (3.32)	-.973 (.332)	84
<i>Abused emotionally YES</i>		4.11 (3.24)		118
<i>Abused emotionally NO</i>	<i>Drug Use</i>	5.93 (2.37)	-1.517 (.131)	83
<i>Abused emotionally YES</i>		6.46 (2.51)		117
<i>Abused emotionally NO</i>	<i>Legal Status</i>	1.91 (2.43)	<b>-3.072 (.002)</b>	82
<i>Abused emotionally YES</i>		3.16 (3.06)		118
<i>Abused emotionally NO</i>	<i>Family/Social Relationships</i>	5.24 (3.30)	<b>-3.235 (.001)</b>	82
<i>Abused emotionally YES</i>		6.25 (2.04)		118
<i>Abused emotionally NO</i>	<i>Psychiatric Status</i>	4.27 (2.73)	<b>-3.196 (.002)</b>	79
<i>Abused emotionally YES</i>		5.46 (2.41)		113

As regards the relationship between physical abuse suffered and the use of drugs, it appears to be statistically significant ( $X^2= 4.603$ ; (p)= 0.032/t=-2.106; (p)=.036). The same occurs with

the fact of having suffered physical abuse and presenting more problems in the legal status area (t=-2.386; (p)=.018) (tables 9 and 10).

Table 9. Physical abuse and Areas Scores.  $X^2$  comparison.

	Area/Score	0-6	7-9	$X^2$ (p)
<i>Abused physically NO</i>	<i>Medical Status</i>	88.27% (128)	11.72% (17)	.846 (.358)
<i>Abused physically YES</i>		83.33% (45)	16.66% (9)	
<i>Abused physically NO</i>	<i>Employment/Support Status</i>	77.24% (112)	22.75% (33)	.068 (.794)
<i>Abused physically YES</i>		75.47% (40)	24.52% (13)	
<i>Abused physically NO</i>	<i>Alcohol Use</i>	70.74% (104)	29.51% (43)	.311 (.577)
<i>Abused physically YES</i>		66.66% (36)	33.33% (18)	
<i>Abused physically NO</i>	<i>Drug Use</i>	45.20% (66)	54.79% (80)	<b>4.603 (.032)</b>
<i>Abused physically YES</i>		28.30% (15)	71.69% (38)	
<i>Abused physically NO</i>	<i>Legal Status</i>	88.96% (129)	11.03% (16)	2.924 (.087)
<i>Abused physically YES</i>		79.62% (43)	20.37% (11)	
<i>Abused physically NO</i>	<i>Family/Social Relationships</i>	60% (87)	40% (58)	1.608 (.205)
<i>Abused physically YES</i>		50% (27)	50% (27)	
<i>Abused physically NO</i>	<i>Psychiatric Status</i>	68.11% (94)	31.88% (44)	1.569 (.210)
<i>Abused physically YES</i>		58.49% (31)	41.50% (22)	

Table 10.  
Physical abuse and Areas Scores. t-test comparison

	Area/Score	Means (SD)	t-test (p)	n
<i>Abused physically NO</i>	<i>Medical Status</i>	2.90 (2.631)	-.652 (.515)	145
<i>Abused physically YES</i>		3.19 (2.974)		54
<i>Abused physically NO</i>	<i>Employment/Support Status</i>	4.25 (2.631)	-.840 (.402)	145
<i>Abused physically YES</i>		4.60 (2.699)		53
<i>Abused physically NO</i>	<i>Alcohol Use</i>	3.90 (3.235)	-.053 (.957)	147
<i>Abused physically YES</i>		3.93 (3.425)		54
<i>Abused physically NO</i>	<i>Drug Use</i>	6.01 (2.473)	-2.106 (.036)	146
<i>Abused physically YES</i>		6.83 (2.335)		53
<i>Abused physically NO</i>	<i>Legal Status</i>	2.33 (2.779)	-2.386 (.018)	145
<i>Abused physically YES</i>		3.41 (2.962)		54
<i>Abused physically NO</i>	<i>Family/Social Relationships</i>	5.70 (2.177)	.487 (.172)	145
<i>Abused physically YES</i>		6.19 (2.283)		54
<i>Abused physically NO</i>	<i>Psychiatric Status</i>	4.77 (2.623)	-1.764 (.079)	138
<i>Abused physically YES</i>		5.51 (2.539)		53

A statistically significant relationship is observed between the variable “sexual abuse” and a medium-low score in the medical problems area ( $X^2= 9.197$ ;  $p= 0.002$ ). The same occurs with the

fact of not having suffered sexual abuse and having a higher score in relation to problems in the employment/supports area ( $t=-2.055$ ;  $p=.041$ ) (tables 11 and 12).

Table 11. Sexual abuse and Areas Scores.  $X^2$  comparison.

	Area/Score	0-6	7-9	$X^2$ (p)
<i>Abused sexually NO</i>	<i>Medical Status</i>	88.77% (166)	11.22% (21)	9.197 (.002)
<i>Abused sexually YES</i>		58.33% (7)	41.66% (5)	
<i>Abused sexually NO</i>	<i>Employment/Support Status</i>	76.34% (142)	23.65% (44)	.309 (.578)
<i>Abused sexually YES</i>		83.33% (10)	16.66% (2)	
<i>Abused sexually NO</i>	<i>Alcohol Use</i>	68.78% (130)	31.21% (59)	.204 (.651)
<i>Abused sexually YES</i>		75% (9)	25% (3)	
<i>Abused sexually NO</i>	<i>Drug Use</i>	40.10% (75)	59.89% (112)	.457 (.499)
<i>Abused sexually YES</i>		50% (6)	50% (6)	
<i>Abused sexually NO</i>	<i>Legal Status</i>	85.56% (160)	14.43% (27)	.348 (.872)
<i>Abused sexually YES</i>		91.66% (11)	8.33% (1)	
<i>Abused sexually NO</i>	<i>Family/Social Relationships</i>	58.28% (109)	41.71% (78)	1.273 (.259)
<i>Abused sexually YES</i>		41.66% (5)	58.33% (7)	
<i>Abused sexually NO</i>	<i>Psychiatric Status</i>	66.48% (119)	33.51% (60)	1.351 (.245)
<i>Abused sexually YES</i>		50% (6)	50% (6)	

Table 12.  
Sexual abuse and Areas Scores. t-test comparison

	Area/Score	Means (SD)	t-test (p)	n
<i>Abused sexually NO</i>	<i>Medical Status</i>	2.88 (2.592)	-1.808 (.072)	187
<i>Abused sexually YES</i>		4.33 (4.053)		12
<i>Abused sexually NO</i>	<i>Employment/Support Status</i>	4.44 (2.589)	2.055 (.041)	186
<i>Abused sexually YES</i>		2.83 (3.070)		12
<i>Abused sexually NO</i>	<i>Alcohol Use</i>	3.90 (3.297)	-.443 (.068)	189
<i>Abused sexually YES</i>		4.33 (3.200)		12
<i>Abused sexually NO</i>	<i>Drug Use</i>	6.24 (2.471)	-.020 (.984)	187
<i>Abused sexually YES</i>		6.25 (2.491)		12
<i>Abused sexually NO</i>	<i>Legal Status</i>	2.67 (2.914)	.395 (.693)	187
<i>Abused sexually YES</i>		2.33 (2.535)		12
<i>Abused sexually NO</i>	<i>Family/Social Relationships</i>	5.82 (2.148)	-.785 (.433)	187
<i>Abused sexually YES</i>		6.33 (2.995)		12
<i>Abused sexually NO</i>	<i>Psychiatric Status</i>	4.91 (2.564)	-1.514 (.132)	179
<i>Abused sexually YES</i>		6.08 (3.088)		12

Regarding physical, psychological or sexual abuse and the probability of using a specific substance, no statistically significant differences were found.

As regards family history of alcohol use, other drug use or psychiatric problems, no specific information is gathered by the follow-up ASI, however it may be recorded in the history of abuse in the last 30 days - data presented below (table 13).

### RQ 2: Relationship between:

**Family History of Substance Use, Co-occurring Mental Health Problems, History of associated emotional, sexual and physical abuse and completion of 12-month treatment plan.**

Table 13.  
Abuses past 30 days initial vs follow up ASI

	Initial			Follow-up		
	Yes	No	n	Yes	No	n
<i>Emotionally abused (past 30 days)</i>	19.80%	80.19%	202	10.44%	89.55%	201
<i>Physically abused (past 30 days)</i>	4.95%	95.04%	202	1.99%	98.00%	201
<i>Sexually abused (past 30 days)</i>	0.49%	99.50%	201	0.00%	98.51%	199

As can be observed, a fall in the percentage of abuses occurs in all categories, with no statistically significant differences.

The answer to this question should be made by expanding the sample with people who haven't completed the TC treatment, since the people included in this sample continue to be related in some way (whether at the TC or in the reintegration programme) with the treatment resources

### RQ 3: Relationship between:

**Family History of Substance Use, Co-occurring Mental Health Problems, History of associated emotional, sexual and physical abuse and change in ASI after completion of TC plan.**

This question will be answered in a subsequent phase of the research process.

**RQ 4: Relationship between:**

**Family History of Substance Use, Co-occurring Mental Health Problems, History of associated emotional, sexual and physical abuse and change in ASI score.**

Analysing the change in severity scores between the initial ASI and the follow-up ASI after 12 months of treatment, a reduction

in the percentages of each one of the areas is observed. Except for the legal status, all differences are statistically significant (table 14).

The following tables (tables 9 and 10) show the values relative to the measurements re-evaluated with the ASI at the time of TC treatment onset and after 12 months of treatment.

Table 14.  
Severity scores comparison initial ASI-follow-up ASI

	Initial (7-9)	Follow-up (7-9)	X <sup>2</sup> (p)	n (follow-up)
<i>Medical Status</i>	13.00%	7.07%	3.869 (.049)	198
<i>Employment/Support Status</i>	23.11%	15.50%	3.715 (.054)	200
<i>Alcohol Use</i>	30.69%	12.87%	18.829 (.000)	202
<i>Drug Use</i>	59.50%	25.51%	46.748 (.000)	196
<i>Legal Status</i>	14.00%	9.00%	2.456 (.117)	200
<i>Family/Social Relationships</i>	42.50%	21.89%	19.514 (.000)	201
<i>Psychiatric Status</i>	34.37%	8%	41.193 (.000)	200

Table 15.  
Average severity indexes differences between initial and follow-up

AREA	INITIAL EUROPASI			FOLLOW-UP EUROPASI			Initial/follow-up difference
	n	Mean	SD	n	Mean	SD	
<i>Medical Status</i>	200	2.97	2.703	197	1.86	2.407	-1.11
<i>Employment/Support Status</i>	199	4.33	2.638	199	3.65	2.716	-0.67
<i>Alcohol Use</i>	202	3.92	3.277	201	3.15	2.760	-0.77
<i>Drug Use</i>	200	6.24	2.460	195	4.34	2.782	-1.90
<i>Legal Status</i>	200	2.65	2.881	199	1.86	2.727	-0.79
<i>Family/Social Relationships</i>	200	5.84	2.205	200	4.26	2.659	-1.58
<i>Psychiatric Status</i>	192	4.97	2.609	199	2.82	2.420	-2.15

As can be seen (table 15), the average of all severity indices falls after 12 months of treatment.

Tables 16-19 detail the results for the average comparison between initial severity and follow-up scores depending on whether there is a family history of alcohol or drug use (table 16), a family history of psychiatric problems (table 17), whether they have suffered emotional abuse (table 18), and whether they have suffered physical abuse (table 19).

As can be observed, in all cases the average scores of severity in the different areas decrease, being statistically significant in their majority.

In all cases, the people who declare having a family history of psychiatric problems are more numerous than those who affirm not to have such a family history.

Table 16.  
Severity indexes and Family History use OH/Drugs differences between initial and follow-up: means and t-test

AREA		INITIAL EUROPASI			FOLLOW-UP EUROPASI			Initial/ follow-up difference	t-test	(p)
		n	Mean	SD	n	Mean	SD			
Medical Status	<b>Baseline</b> Family History use OH/Drugs NO	70	2.81	2.572	70	1.59	2.25	1.22	3.273	(0.002)
	<b>Baseline</b> Family History use OH/Drugs YES	125	2.99	2.764	125	2.02	2.495	.97	3.194	(.002)
Employment/ Support Status	<b>Baseline</b> Family History use OH/Drugs NO	72	4.08	2.695	72	3.22	2.894	.78	2.287	(.025)
	<b>Baseline</b> Family History use OH/Drugs YES	124	4.47	2.264	124	3.95	2.572	.52	2.048	(.043)
Alcohol Use	<b>Baseline</b> Family History use OH/Drugs NO	73	3.78	3.334	73	2.64	2.648	1.14	2.860	(.006)
	<b>Baseline</b> Family History use OH/Drugs YES	128	4.00	3.268	128	3.44	2.791	.56	1.889	(.061)
Drug use	<b>Baseline</b> Family History use OH/Drugs NO	70	6.14	2.373	70	3.99	2.862	2.15	6.592	(.000)
	<b>Baseline</b> Family History use OH/Drugs YES	123	6.34	2.395	123	4.56	2.717	1.78	7.716	(.000)
Legal Status	<b>Baseline</b> Family History use OH/Drugs NO	71	2.13	2.947	71	1.68	2.687	.45	1.648	(.104)
	<b>Baseline</b> Family History use OH/Drugs YES	126	2.96	2.824	126	1.97	2.768	.99	4.223	(.000)
Family/Social Relationships	<b>Baseline</b> Family History use OH/Drugs NO	71	5.51	2.229	71	3.99	2.800	1.52	4.501	(.000)
	<b>Baseline</b> Family History use OH/Drugs YES	127	6.00	2.189	127	4.38	2.576	1.62	6.030	(.000)
Psychiatric Status	<b>Baseline</b> Family History use OH/Drugs NO	70	4.41	2.534	70	2.76	2.236	1.65	4.734	(.000)
	<b>Baseline</b> Family History use OH/Drugs YES	120	5.28	2.622	120	2.80	2.458	2.48	8.517	(.000)



Table 17.  
Severity indexes and Psychiatric Family History differences between initial and follow-up: means and t-test

AREA		INITIAL EUROPASI			FOLLOW-UP EUROPASI			Initial/ follow-up difference	t-test	(p)
		n	Mean	SD	n	Mean	SD			
Medical Status	<b>Baseline</b> Family History Psychiatric NO	132	2.82	2.687	132	1.58	2.268	1.24	4.241	(.000)
	<b>Baseline</b> Family History Psychiatric YES	63	3.16	2.707	63	2.44	2.620	.72	1.747	(.086)
Employment/ Support Status	<b>Baseline</b> Family History Psychiatric NO	132	4.30	2.606	132	3.58	2.732	.72	2.645	(.009)
	<b>Baseline</b> Family History Psychiatric YES	64	4.38	2.757	64	3.89	2.673	.49	1.508	(.137)
Alcohol Use	<b>Baseline</b> Family History Psychiatric NO	135	3.75	3.302	135	3.05	2.700	.7	2.389	(.018)
	<b>Baseline</b> Family History Psychiatric YES	66	4.27	3.247	66	3.35	2.890	.92	2.213	(.030)
Drug use	<b>Baseline</b> Family History Psychiatric NO	131	6.37	2.251	131	4.35	2.759	2.02	8.278	(.000)
	<b>Baseline</b> Family History Psychiatric YES	62	6.05	2.645	62	4.35	2.835	1.7	6.001	(.000)
Legal Status	<b>Baseline</b> Family History Psychiatric NO	133	2.45	2.870	133	1.67	2.596	.78	3.491	(.001)
	<b>Baseline</b> Family History Psychiatric YES	64	3.09	2.904	64	2.27	2.988	.82	2.722	(.008)
Family/Social Relationships	<b>Baseline</b> Family History Psychiatric NO	133	5.72	2.140	133	4.08	2.787	1.64	6.313	(.000)
	<b>Baseline</b> Family History Psychiatric YES	65	6.03	2.352	65	4.57	2.358	1.46	4.094	(.000)
Psychiatric Status	<b>Baseline</b> Family History Psychiatric NO	128	4.68	2.659	128	2.47	2.300	2.21	7.963	(.000)
	<b>Baseline</b> Family History Psychiatric YES	62	5.55	2.447	62	3.44	2.406	2.11	5.385	(.000)

Table 18.  
Severity indexes and Emotional Abuse differences between initial and follow-up: means and t-test

AREA		INITIAL EUROPASI			FOLLOW-UP EURO-PASI			Initial/ follow-up difference	t-test	(p)
		n	Mean	SD	n	Mean	SD			
Medical Status	<b>Baseline</b> Abused Emotionally NO	81	2.53	2.356	81	1.74	2.479	.79	2.261	(.026)
	<b>Baseline</b> Abused Emotionally YES	114	3.21	2.883	114	1.95	2.376	1.26	3.934	(.000)
Employment/ Support Status	<b>Baseline</b> Abused Emotionally NO	81	4.04	2.547	81	3.38	2.764	.66	2.019	(.047)
	<b>Baseline</b> Abused Emotionally YES	115	4.53	2.712	115	3.90	2.664	.63	2.277	(.025)
Alcohol Use	<b>Baseline</b> Abused Emotionally NO	84	3.65	3.327	84	3.07	2.789	.58	1.557	(.123)
	<b>Baseline</b> Abused Emotionally YES	117	4.11	3.256	117	3.21	2.750	.9	2.923	(.004)
Drug use	<b>Baseline</b> Abused Emotionally NO	81	5.96	2.277	81	4.01	2.755	1.95	6.567	(.000)
	<b>Baseline</b> Abused Emotionally YES	112	6.49	2.442	112	4.60	2.778	1.89	7.703	(.000)
Legal Status	<b>Baseline</b> Abused Emotionally NO	81	1.94	2.436	81	1.40	2.528	.54	2.220	(.029)
	<b>Baseline</b> Abused Emotionally YES	116	3.16	3.079	116	2.19	2.837	.97	3.844	(.000)
Family/Social Relationships	<b>Baseline</b> Abused Emotionally NO	81	5.21	2.301	81	3.85	2.847	1.36	3.992	(.000)
	<b>Baseline</b> Abused Emotionally YES	117	6.25	2.051	117	4.50	2.497	1.75	6.528	(.000)
Psychiatric Status	<b>Baseline</b> Abused Emotionally NO	78	4.23	2.730	78	2.53	2.202	1.7	5.037	(.000)
	<b>Baseline</b> Abused Emotionally YES	112	5.47	2.420	112	2.96	2.478	2.51	8.336	(.000)

Table 19.  
Severity indexes and Physical Abuse differences between initial and follow-up: means and t-test

AREA		INITIAL EUROPASI			FOLLOW-UP EURO-PASI			Initial/ follow-up difference	t-test	(p)
		n	Mean	SD	n	Mean	SD			
Medical Status	<b>Baseline</b> Abused Physically NO	143	2.91	2.632	143	1.96	2.463	.95	3.435	(.001)
	<b>Baseline</b> Abused Physically YES	51	3.02	2.888	51	1.59	2.299	1.43	3.053	(.004)
Employment/ Support Status	<b>Baseline</b> Abused Physically NO	144	4.24	2.618	144	3.47	2.712	.77	3.181	(.002)
	<b>Baseline</b> Abused Physically YES	51	4.65	2.726	51	4.25	2.652	.4	.931	(.356)
Alcohol Use	<b>Baseline</b> Abused Physically NO	147	3.90	3.235	147	3.17	2.768	.73	2.675	(.008)
	<b>Baseline</b> Abused Physically YES	53	3.92	3.458	53	3.08	2.786	.84	1.693	(.096)
Drug use	<b>Baseline</b> Abused Physically NO	143	6.05	2.422	143	4.21	2.818	1.84	8.022	(.000)
	<b>Baseline</b> Abused Physically YES	49	6.86	2.170	49	4.69	2.624	2.17	6.626	(.000)
Legal Status	<b>Baseline</b> Abused Physically NO	144	2.35	2.782	144	1.65	2.666	.7	3.417	(.001)
	<b>Baseline</b> Abused Physically YES	52	3.42	2.992	52	2.37	2.849	1.05	2.734	(.009)
Family/Social Relationships	<b>Baseline</b> Abused Physically NO	144	5.69	2.176	144	4.18	2.670	1.51	6.151	(.000)
	<b>Baseline</b> Abused Physically YES	53	6.19	2.304	53	4.32	2.622	1.87	4.513	(.000)
Psychiatric Status	<b>Baseline</b> Abused Physically NO	137	4.75	2.626	137	2.74	2.311	2.01	7.632	(.000)
	<b>Baseline</b> Abused Physically YES	52	5.54	2.555	52	2.88	2.572	2.66	5.938	(.000)

The outputs related to the cross-linked data between having been sexually abused and the severity scores of the EuropASI

are not included due to the low number of people who claim to have suffered sexual abuse.

**RQ 5: Relationship between:**

**Family History of Substance Use, Co-occurring Mental Health Problems, History of associated emotional, sexual and physical abuse and change in ASI score as treatment outcome.**

The answer to this question should be made by expanding the sample with people who haven't completed the TC treatment,

since the people included in this sample continue to be related in some way (whether at the TC or in the reintegration programme) with the treatment resources

This question will be answered in a subsequent phase of the research process.

## 7. CONCLUSIONS

In the present study's research questions, two sections of interest have been addressed:

- In the first place, the relationships between certain personal aspects of people undergoing TC treatment: family relationships, mental health disorders, emotional,
- Secondly, the variation of the aforementioned aspects, before and after treatment in the TC (using the EuropASI instrument at treatment onset and after 12 months).

physical or sexual abuse, and their relationship with the addiction's severity level.

Figure 13.  
All the information at a glance

A quick view			
<p>200 patients undergoing a treatment programme at Kethea and PH in 2017 entered the study</p> <p>The male/female ration in both programmes was 9/1</p> <p>2/3 of them were aged less than 40 years and 1/5 less than 29</p>	<p>The substance perceived as most problematic was different between Kethea and PH patients (Greek patients reporting heroin or polydrug use and Spanish patients reporting cocaine, alcohol and alcohol/ other drugs)</p> <p>Significantly long history of substance use in all patients (between 9 and 11 years) with onset use between 14 and 17 years depending of substance</p>	<p>The majority of patients (90% of sample) had no history of previous treatments.</p> <p>About 1/5 of patients had history of previous arrests</p>	<p>The EUROPASI domain scores of the 200 patients were ranked as follows (from most to least affected)</p> <ul style="list-style-type: none"> <li>■ Family/social relationships: 5.84 points out of a range from 0-9</li> <li>■ Psychiatric (perhaps best described as symptoms rather than status): 4.97 points out of a range from 0-9</li> <li>■ Employment support status: 4.33 points out of a range from 0-9</li> <li>■ Alcohol use related status: 3.92 points out of a range from 0-9</li> <li>■ Medical status: 2.97 points out of a range from 0-9</li> <li>■ Legal status: 2.65 points out of a range from 0-9</li> </ul> <p>Despite differences in drug of choice profiles, the EUROPASI score per domain did not vary significantly between Greek and Spanish samples</p>

In the first section, the results show the following, statistically significant relationships ( $p < .05$ ):

- Family history use OH/Drugs and:
  - Legal status: ( $p = .42$ )
  - Psychiatric symptoms: ( $p = 0.025$ )
- Family Psychiatric and Family/Social and:
  - Relationships ( $p = 0.034$ )
  - Psychiatric symptoms: ( $p = 0.025$ )
- Emotional abuse and:
  - Medical status ( $p = 0.046$ )
  - Legal status ( $p = 0.007$ )
  - Family/Social Relations ( $p = 0.010$ )
  - Psychiatric symptoms ( $p = 0.012$ )
- Physical abuse suffered and:
  - Drug use ( $p = 0.032$ )
  - Legal status ( $p = 0.018$ )
- Sexual abuse suffered and:
  - Medical status ( $p = 0.002$ )
  - Employment/Support ( $p = 0.041$ )

The other variables do not show statistically significant relationships with each other or with the level of severity of the addiction. However, higher percentages are detected between people who have suffered emotional, psychological or sexual abuse, except in: sexual abuse and alcohol use, drug use and legal status, where the percentages of people answering “yes” were lower than that of “no’s”.

The second section of the study (pre/post treatment in TC) presents significant differences in all variables before and after treatment, except for Legal Status ( $p = 0.117$ ) – resolving any pending judicial proceeding being of great long term importance although not depending directly on the outcome of treatment but rather on judicial authorities

The variables with statistically significant variations, indicating a significant change in patients, are the following:

- Alcohol use ( $p = 0.000$ )
- Drug use ( $p = 0.000$ )
- Family/Social Relationships ( $p = 0.000$ )
- Psychiatric symptoms ( $p = 0.000$ )
- Medical status ( $p = 0.049$ )
- Employment/Support status ( $p = 0.054$ )

When the variables were disaggregated by independent variables, the results were revealing: in most of the categories both probabilities were significant, and in those that were not, at least one of the probabilities per category was.

The results show a clear, positive influence of treatment in: quitting alcohol and drug use, improving one’s health (substantially in the psychiatric status), and in improving one’s family and social relationships.

Among the limitations of the study, it is worth highlighting the fact that we did not select a control group (in this case, subjects who have not completed the treatment) to establish whether the differences produced were related to the treatment programme or other factors. Similarly, other aspects were not taken into account such as the methodology of specific interventions or the availability of external support to treatment.

Despite these limitations, which will be considered in subsequent investigations, and being careful not to establish causal relationships lightly, it can be stated based on the results that the subjects have experienced substantial improvements in their quality of life, both in the health and psychological and social relationships dimensions, thus confirming the positive effect of TC-based treatment using a biopsychosocial approach on people.

Figure 14.  
Research Questions summary

#### Research question 1:

The presence of family history of alcohol or drug use differentiated between each domain of EUROPASI score of the patients at baseline (admission) – score being higher amongst those with such family history compared to none reaching statistical significance for the legal status domain and psychiatric symptoms domain

The presence of family history of psychiatric problems also differentiated between each domain of EUROPASI score of the patients at baseline (admission) – score being higher in almost all cases amongst those with such family history compared to none reaching statistical significance for psychiatric symptoms

The history of emotional, sexual and physical abuse also differentiated between each domain of EUROPASI score of the patients generated at baseline (admission) – score being higher amongst those with such family history compared to none reaching statistical significance for (the medical, legal, family/social relationship, psychiatric symptoms domain for emotional abuse; drug use and legal status domain for physical abuse and medical status and employment support status domain for those with history of sexual abuse).

Figure 14.  
Research Questions summary

#### Research question 4:

Clearly the EUROPASI score at baseline and follow up (around 12 months after baseline assessment) indicates an improvement across all 7 EUROPASI domains.

The 3 domains that are most improving are -from highest to lowest- psychiatric symptoms, drug use related status, and family social relationship. These happen to be the 3 top ranking domains reflected to be affected at baseline admission of patients.

Family history of alcohol/drug use at baseline carried an effect on how much each domain of EUROPASI has improved from baseline to follow up (indicator improving more when no such family history exist). However it was worth noting that despite the fact the change from baseline to follow up was lower in those with positive family history of alcohol and substance use, the change from baseline to follow up was still significant (but perhaps more can be done, now that we know that this history is slowing down effect in almost all domains).

The same as above can be said about family history of mental health problems (with a few exceptions that are worth exploring as we seem to be doing a good job on both)

For a history of emotional and physical abuse we seem to be improving the score of EUROPASI across all domains for both those exposed and not exposed (in many cases helping those exposed more). It is very valuable to explore why as this is a positive finding.

Given low number of sexual abuse cases we could not explore this domain.

## 8. IMPLICATIONS FOR PUBLIC HEALTH AND DRUG POLICIES

In addition to the recommendations for further investigations we, based on the results, suggest the following:

- The profile of the sample, with people attaining high levels in the Addiction Severity Index, considerable deterioration and multi-problematic situations requires high-intensity professional environments, at least initially protected, that are much more likely to facilitate the patients' resocialization process than other, outpatient services
- The sample showed co-occurring health and psychological or socio-relational problems. This multifactorial concurrency requires an array of therapeutic and educational solutions such as those enabled by TC involved in this research and whose biopsychosocial model is therefore highly recommended.
- The re-educational process demands time and continuity – short-term or separate therapeutic measures have no positive influence on the change process. For a TC-based treatment programme to be effective, its duration should be between 7 and 11 months, thus facilitating the development of a methodological proposal that promotes real and profound changes in patients.
- Health authorities should consider the recommendations and expertise of professional TCs using a biopsychosocial model for the treatment of addiction and paying special attention to such aspects as family history or prior history of abuse.
- It appears necessary to expand the sample with patients from other therapeutic communities in other countries to obtain scientific evidence than can be extrapolated to other areas.
- Now that there is strong evidence of the severity of substance use disorders and their links with prior abuse or family history, it is necessary to compare ASI scores with those of resources other than TCs.
- As regards prevention, it is necessary to improve preventive interventions in order to reduce violence and other abuse and strengthen family protection factors.
- Lastly, it also appears necessary to further reinforce the gender perspective in treatment programmes.

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