



Assessing the Needs of Victimized Adolescents in Therapeutic Residential Care in Spain

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Abstract

Children and adolescents in residential care often present with emotional and/or behavioral problems associated to previous adverse experiences such as abuse and neglect. Consequently, child welfare systems have developed therapeutic residential care (TRC) programs to address the most complex needs of this population. The aim of this study is to explore the characteristics of youths in TRC comparing them with those of youth in general residential care (GRC), and to detect the factors predicting referral to TRC programs. The sample consisted of 900 adolescents aged 12–17 years old ($M = 15.57$; $SD = 1.33$; 66.2% boys), from General Residential Care ($n = 554$) and Therapeutic Residential Care ($n = 346$). Profile information was collected through official files and an ad hoc questionnaire. Mental health problems were evaluated using the youth self-report (YSR). Significant sociodemographic differences were found between groups. Also, a higher frequency of emotional abuse and neglect, worse mental health, more breakdowns in child welfare measures and risk behaviors were found among adolescents in TRC. Sociodemographic and familial characteristics, features of the protective process and risk behaviors were associated to referral to TRC programs. Youths in GRC and TRC present with mental and behavioral problems that make it necessary to implement prevention programs and early detection procedures. Screening and evaluation of youth's mental health and establishment of concrete criteria are suggested to ensure appropriate referral to the most suitable resource according to the individual needs of adolescents.

Keywords Child care · Therapeutic residential care · General residential care · Risk behaviors · Mental health problems

In recent years, residential child care (RCC) has become the “last resource” to refer adolescents experiencing severe cohabitation difficulties in family-based measures (Del Valle & Bravo, 2013; Thoburn & Ainsworth, 2015). Consequently, adolescents in RCC often present with a wide range of emotional and behavioral problems (Bronard et al., 2016; Duppong Hurley et al., 2009; Jozefiak et al., 2015; Lehmann et al., 2013). More specifically, McLean et al. (2011) have reported a high prevalence of self-harming behaviors, running away history, multiple placement disruptions, sexually

inappropriate behaviors, mental health problems, alcohol and substance abuse and developmental disabilities. Davidson et al. (2011) also found frequent involvement in high-risk activities and disruptive behaviors, as well as problematic relationships with the family.

In fact, the special needs of these adolescents have often overwhelmed the available resources of traditional residential care programs such as family homes, leaving care programs and unaccompanied migrant minor facilities (here grouped and labelled as general residential care programs (GRC)). Most GRC programs share their core features: they are characterized by family environments where children and adolescents live in small houses or flats (Bravo & Del Valle, 2009), with educational interventions aimed at providing protection and education when family options (such as adoption or foster care) are not possible (Bravo & Del Valle, 2009). However, these GRC programs were not prepared to address the needs of adolescents with severe problems. Consequently, the welfare systems were compelled to develop specialized residential care programs (Bath, 2009).

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These are known as therapeutic residential care (TRC) programs: “TRC involves the planful use of a purposefully constructed, multi-dimensional living environment designed to enhance or provide treatment, education, socialization, support and protection to children and youth with identified mental health or behavioral needs in partnership with their families and in collaboration with a full spectrum of community based formal and informal helping resources” (Whittaker et al., 2015, p.24). TRC programs are characterized by intensive specialized interventions, preferably short in time (Del Valle et al., 2015), focused on the attention of behavioral and/or emotional problems, before returning to another less restrictive protection measure. Therefore, the main goal of TRC is to provide adolescents in residential care with specific services that address their mental health needs within the Child Welfare System. This type of programs is set to follow some basic principles (Whittaker et al., 2017): (1) safety first and do no harm; (2) partnership between families and staff; (3) programs anchored in the community, culture and social networks; (4) culture of learning based on deeply personal and human relationships between youths and staff and (5) the epistemological goal of identifying evidence-based programs and strategies for practice.

In Spain, TRC services were created in the 1990’s (Del Valle & Bravo, 2013). However, it was not until 2015 when they were regulated and included in the national legislation of child protection under the denomination of “specific centers for minors with behavioral problems”. The goals, target groups and interventions of these programs are the same of those labelled as TRC in other countries. Before their legal recognition, the services provided in this kind of residential child care services had received considerable criticism in Spain. This was mainly due to the wide diversity of intervention approaches and some excessive control and contention procedures being implemented (Spanish Ombudsman, 2009). With the new regulation, TRC services follow clear procedures under the supervision of the Family Court and all referrals must be supported by appropriate psychological reports. According to this referral procedure, adolescents with behavioral problems can be referred directly from the origin family to a TRC facility.

Currently, TRC services face multiple challenges derived from the regulatory changes but also from the heterogeneity and complexity of the profiles of adolescents. Despite that, only a few studies have evaluated the specific needs and characteristics of adolescents in TRC. According to previous studies with modest samples of this population (Martín et al., 2017; Sabaté-Tomàs, 2018), adolescents in TRC are characterized by a severe incidence of drug abuse and mental health problems, running away and other high-risk behaviors. More recently, Águila-Otero et al. (2020) have pointed out the wide range of high-risk behaviors presented by these adolescents, as well as some significant sex

differences. In particular, girls reported more suicidal ideation and attempts as well as more sexual high-risk behaviors than boys, whereas boys reported more criminal and violent behaviors than girls. Besides, Fernández-Artamendi et al. (2020) have also reported the significant impact that victimization experiences have on the development of substance use problems in this vulnerable group.

Despite some advances in our understanding of the characteristics of adolescents in TRC in recent years, no information exists with regards to the child welfare intervention received, as well as to areas such as medical history, psychopharmacological prescriptions, or their mental health. Moreover, no previous studies have specifically evaluated the differences in the characteristics of adolescents in TRC and in RCC. This is of great importance since a recent study evaluating the adolescents’ perceived quality of TRC and RCC facilities in Spain showed that adolescents in TRC report significantly lower scores on nearly all areas (Pérez-García et al., 2019), including the affective bond with the staff, academic support received, or the physical infrastructure of facilities, among others. Consequently, improving our knowledge on the specific characteristics of adolescents in TRC, as well as on the differences between adolescents in TRC facilities and in other RCC services, is crucial to improve the therapeutic and educative interventions provided in TRC, as well as to comply with the aforementioned principles (Whittaker et al., 2017). Therefore, the present study has two goals: (1) to evaluate the characteristics of adolescents in TRC and to compare them with those of adolescents in other RCC programs in Spain and (2) to detect the variables predicting referral to TRC among adolescents in the child welfare system.

Method

Participants

The inclusion criteria to participate in the study were (1) having a protective measure from the child welfare system (2) living in a residential child care program and (3) being between 12 and 18 years old (TRC programs do not admit cases under 12 years old, with few exceptions). The sample was recruited through two different research projects evaluating residential care in different Autonomous Communities in Spain: Galicia, Asturias, Cantabria, Basque Country, Catalonia, Castile and Leon, Madrid, Extremadura, Murcia, Tenerife, Andalusia, Castile-La Mancha and Aragon.

One of the projects evaluated TRC programs ($n = 353$). As indicated above, these are characterized by intensive specialized interventions focused on the attention of mental health problems (Del Valle et al., 2015). The other project evaluated other general residential care (GRC) facilities,

which includes residential care services provided across regions such as family homes, leaving care programs and unaccompanied migrant minor facilities, with a sample of 1123 adolescents.

According to the exclusion criteria, 576 youths (39% of the initial sample) were excluded from the present study. Also, in order to control for possible differences due to sociodemographic characteristics, both samples were made comparable on sex and age, creating a comparison GRC group starting from characteristics of the TRC sample. The final sample was made up of 900 youths (66.2% boys) between 12 and 17 years old ($M = 15.57$; $SD = 1.33$). Groups were formed by 346 adolescents from TRC and 554 adolescents from GRC. The sociodemographic characteristics of the participants are presented in Table 1.

Instruments

Personal information was extracted by researchers from the personal child welfare files of each case to gather information on: (a) general sociodemographic characteristics and family background (sex, age, place of origin and ethnicity of the family and family risk factors), (b) child welfare intervention before admission to RCC (reasons for admission in the child welfare system, types of abuse and neglect, breakdowns and previous RCC, time spent in RCC) and, (c) general medical history (disability, chronic physical illness

and mental health treatments, including prescribed psychotropic drugs). In addition, key educators filled up an *ad-hoc* questionnaire to provide information about adolescents' risk behaviors during their stay in the facility: (1) attempts of suicidal behavior and (2) drug use, including abusive use of alcohol and use of other illegal drugs such as cannabis or cocaine.

Mental health problems were evaluated using the youth self-report (YSR) (Achenbach et al., 2001). This questionnaire consists of 112 items scored with a three-point Likert format which results in eight specific clinical subscales (anxiety-depression, withdrawal-depression, somatic complaints, attention problems, thought problems, social problems, aggressive behavior and rule-breaking behavior) and three broadband scales (internalizing, externalizing and total). Good psychometric properties have been reported for the instrument with α (Cronbach's Alpha) = 0.79 for the syndrome scales, $\alpha = 0.90$ for the internalizing and externalizing scales and $\alpha = 0.87$ for the total scale (Achenbach et al., 2008). In our study, the YSR showed a Cronbach's Alpha of 0.944. Following the criteria established by the authors, direct scores were transformed into standardized scores, establishing the clinical range in ≥ 64 points for the broadband scales and ≥ 70 for syndrome scales.

Table 1 Sociodemographic and family characteristics

Variable	GRC <i>n</i> = 554 <i>n</i> (%)	TRC <i>n</i> = 346 <i>n</i> (%)	χ^2	<i>p</i>	Effect size (Cramer's Phi)
Sex					
Male	367 (66.2)	229 (66.2)	0.00	0.985	0.00
Female	187 (33.8)	117 (33.8)			
Age					
11–14 years old	109 (19.7)	68 (19.7)	0.00	0.994	0.00
15–17 years old	445 (80.3)	278 (80.3)			
Unaccompanied migrant minor	84 (15.2)	15 (4.3)	25.50	≤ 0.001	0.17
Immigrant family	64 (11.6)	79 (22.8)	20.06	≤ 0.001	0.15
Roma family	41 (7.4)	41 (11.8)	5.01	0.025	0.08
Family risk factors					
Mental health disorder	157 (28.3)	131 (37.9)	15.75	≤ 0.001	0.14
Intellectual disability	90 (16.2)	19 (5.5)	19.15	≤ 0.001	0.15
Substance abuse	192 (34.7)	125 (36.1)	2.02	0.155	0.05
Suicidal behaviour	39 (7)	15 (4.3)	1.86	0.173	0.05
Criminal behaviour	70 (12.6)	85 (24.6)	27.80	≤ 0.001	0.18
Poverty	197 (35.6)	159 (46)	17.94	≤ 0.001	0.14
Gender violence	107 (19.3)	135 (39)	54.20	≤ 0.001	0.25
Presence of risk factor	390 (70.4)	263 (76)	17.55	≤ 0.001	0.14

More than one category per case in family risk factors is possible

GRC general residential care, TRC therapeutic residential care

Significant results are highlighted in bold

Procedure

This study was approved by the public administration from each participating Autonomous Community and by the Ethics Committee from University of La Laguna. Before data collection, the legal guardians of children in care (the birth family or the regional authority) signed an informed consent allowing children and adolescents to participate in the study.

Profile information of all participants was collected by the research team through the review of the child welfare files of each youth. Information on risk behaviors was collected by the social educators, who filled out an ad hoc questionnaire. Different sample sizes can be found for each variable in both groups, due to missing data for some participants. Finally, the study was presented to adolescents in the facilities and those who wished to participate signed an informed consent.

Data Analysis

Firstly, and in order to compare the characteristics and mental health problems between adolescents in TRC and GRC programs, bivariate analyses were carried out. Chi-Squared was used for comparisons between categorical variables and *t* test for quantitative variables. Size effects were also calculated using Cramer's Phi and Cohen's *d*, respectively. Due to the multiple statistical comparisons carried out in the study, the Bonferroni correction was used in bivariate analyses in order to avoid possible Type I Error, setting the confidence level at 99.9%. Secondly, logistic regression was carried out to determine the key variables predicting referral of adolescents to TRC programs, with a confidence level of 95%. Only those variables showing significant differences in the bivariate analyses were included in the logistic regression. All analyses were performed using the statistics program SPSS v24.0

Results

Multiple statistically significant differences were found between adolescents in TRC and GRC. As indicated in Table 1, among adolescents in TRC there were significantly fewer unaccompanied minor migrants and significantly more adolescents from immigrant families. Also, adolescents in TRC had more family risk factors than GRC adolescents, with an average of 2.13 family risk factors in the TRC group compared to 1.55 in the GRC group [$t(857) = -5.66$, $p \leq 0.001$; $d = 0.40$]. However, most effect sizes were small, except from gender violence, with an effect of between small and medium size (0.25).

Regarding the features of the child welfare intervention, adolescents in TRC were more likely to have entered the child welfare system because of experiences of abuse or

neglect, being out of parental control, and child-to-parent violence, as shown in Table 2. Regarding experiences of abuse and neglect, TRC adolescents reported significantly higher rates of emotional abuse and neglect than adolescents in GRC. It is important to highlight the significantly higher frequency of breakdowns (both in family foster care and adoption) and previous residential child care placements in the TRC group. Moderate effect sizes were reported for out of parental control (0.27) and child-to-parent violence (0.32) as reasons for admission and previous residential care (0.27). Youths in TRC had also a significantly higher number of placement changes with an average of 1.77 versus 0.92 for the GRC group [$t(863) = -8.96$, $p \leq 0.001$; $d = 0.68$], with a considerable effect size. Despite the placement changes, TRC adolescents had shorter stays in RCC, spending an average of 33.28 months versus 46.88 months for the GRC group [$t(816) = 5.15$, $p \leq 0.001$; $d = -0.35$]. Similarly, the GRC group reported the longest stays in the current facility, having spent an average of 35.43 months, versus 9.7 months in the TRC group [$t(887) = 15.27$, $p \leq 0.001$; $d = -0.87$], showing a large effect size.

Significant differences were observed also regarding risk behaviors, with youths in TRC presenting a higher frequency. Of particular interest is the higher prevalence of suicidal behavior and drugs use among adolescents in TRC, as shown in Table 3. The greatest effect sizes, although between small and moderate, were found for drug use in general (0.23) and cannabis use in particular (0.24).

Regarding mental health problems, significant differences were found in several syndrome scales, with higher scores in thought problems, attentional problems, disruptive and aggressive behavior among adolescents in TRC programs (See Table 4). Significant differences were also found in two out of the three broadband scales, with youth in TRC showing higher scores in the externalizing and total scales. Particularly, strong effect sizes were detected for externalizing broadband scale (0.47) and disruptive behavior subscale (0.63).

Regarding the medical history, Table 5 shows that no significant differences existed between adolescents in GRC and TRC in the prevalence of disabilities or illnesses. However, as of mental health services, TRC youths were receiving significantly more mental health interventions of all kinds at the time of the evaluation. In all cases, effect sizes were moderate (psychological treatment = 0.40; psychiatric treatment = 0.48; and psychopharmacological treatment = 0.44). In particular, regarding psychopharmacological prescriptions, adolescents in TRC were using significantly more antipsychotic drugs. The average number of subclasses of psychotropics drugs being prescribed was significantly higher in the TRC group too (an average of 2.01 types), compared to the GRC group (an average of 1.55) [$t(283) = -4.34$, $p \leq 0.001$; $d = -0.54$].

Table 2 Child welfare intervention

Variable	GRC <i>n</i> = 554 <i>n</i> (%)	TRC <i>n</i> = 346 <i>n</i> (%)	χ^2	<i>p</i>	Effect size (Cramer's Phi)
Reasons for admission					
Child abuse or neglect	292 (52.7)	256 (74)	30.48	≤ 0.001	0.19
Out of parental control	186 (33.6)	217 (62.7)	62.43	≤ 0.001	0.27
Child-to-parent violence	16 (2.9)	82 (23.7)	89.15	≤ 0.001	0.32
Impossibility to meet parental obligations	110 (19.9)	40 (11.6)	12.92	≤ 0.001	0.12
Abandonment	60 (10.8)	38 (11)	0.46	0.831	0.01
Unaccompanied migrant minor	79 (14.3)	15 (4.3)	62.43	≤ 0.001	0.17
Child abuse or neglect					
Physical abuse	101 (18.2)	96 (27.7)	8.47	0.004	0.10
Emotional abuse	126 (22.7)	146 (42.2)	31.83	≤ 0.001	0.19
Physical neglect	183 (33)	147 (42.5)	4.99	0.026	0.08
Emotional neglect	151 (27.3)	180 (52)	47.51	≤ 0.001	0.23
Sexual abuse	29 (5.2)	14 (4)	0.99	0.319	0.03
Breakdown					
Foster care breakdown	64 (11.6)	101 (29.2)	34.82	≤ 0.001	0.20
Adoption breakdown	10 (1.8)	33 (9.5)	24.01	≤ 0.001	0.17
Previous residential care	334 (60.3)	302 (87.3)	66.26	≤ 0.001	0.27

More than one category per case is possible

Significant results are highlighted in bold

Table 3 Risk behaviours

Variable	GRC <i>n</i> = 554 <i>n</i> (%)	TRC <i>n</i> = 346 <i>n</i> (%)	χ^2	<i>p</i>	Effect size (Cramer's Phi)
Suicide attempt	18 (3.3)	27 (9.4)	13.49	≤ 0.001	0.13
Drug consumption					
Alcohol	27 (5)	35 (12.3)	14.35	≤ 0.001	0.13
Cannabis	134 (24.7)	138 (48.4)	47.52	≤ 0.001	0.24
Heroin	2 (0.4)	1 (0.3)	0.00	0.971	0.00
Cocaine	12 (2.2)	27 (7.8)	22.04	≤ 0.001	0.16
Inhalants/solvents	6 (1.1)	7 (2)	2.219	0.136	0.05
Other drugs	12 (2.2)	19 (6.7)	10.34	≤ 0.001	0.11

More than one category per case is possible

Significant results are highlighted in bold

Finally, a logistic regression model was developed to determine the predictive role of each variable on the adolescents' referral to TRC. With this purpose, variables in which significant differences were reported in the bivariate analyses were included in the logistic regression model. The resulting model is provided in Table 6. This model correctly classified 79.2% of cases, with a Nagelkerke R^2 value of 0.552. Results indicate that youths in TRC were nearly three times more likely to come from an immigrant family, and twice more likely to have been exposed to gender violence in the family of origin and after a higher number of placement changes and breakdowns. In addition, TRC adolescents

were more likely to have entered the child welfare system due to child-to-parent violence, having suffered some form of neglect, having presented some suicide attempt, and having used drugs.

Discussion

The present study aimed to compare the characteristics of adolescents in therapeutic residential care (TRC) with those from other non-therapeutic residential care facilities (here: GRC; general residential care), as well as to detect the

Table 4 Mental health problems

Variable	GRC <i>n</i> = 446 <i>M</i> (SD)	TRC <i>n</i> = 318 <i>M</i> (SD)	<i>t</i> Student	<i>p</i>	Effect size (Cohen's <i>d</i>)
Anxiety-depression	59.21 (8.14)	61.09 (10.15)	- 2.74	0.006	0.21
Withdrawal-depression	59.87 (9.04)	59.78 (9.03)	0.12	0.901	-0.01
Somatic complaints	57.65 (8.35)	57.67 (9.03)	- 0.04	0.966	0.00
Social problems	58.97 (8.42)	60.22 (9.56)	- 1.87	0.062	0.03
Thought problems	57.48 (7.73)	60.03 (9.03)	- 4.09	≤ 0.001	0.31
Attentional problems	60.25 (10.49)	63.46 (11.65)	- 3.91	≤ 0.001	0.29
Disruptive behaviour	61.46 (9.30)	67.74 (10.98)	- 8.29	≤ 0.001	0.63
Aggressive behaviour	59.54 (9)	62.46 (10.47)	- 4.03	≤ 0.001	0.30
Internalizing	58.37 (9.98)	59.15 (10.99)	- 1.02	0.307	0.08
Externalizing	59.70 (10.65)	64.9 (11.73)	- 6.27	≤ 0.001	0.47
Total	59.49 (10.18)	63.04 (10.53)	- 4.69	≤ 0.001	0.34

Significant results are highlighted in bold

Table 5 General medical history

Variable	GRC <i>n</i> = 554 <i>n</i> (%)	TRC <i>n</i> = 346 <i>n</i> (%)	χ^2	<i>p</i>	Effect size (Cramer's Phi)
Sensorial disability	6 (1.1)	1 (0.3)	1.79	0.181	0.05
Physical disability	16 (2.9)	5 (1.4)	2.06	0.152	0.05
Intellectual disability	97 (17.5)	40 (11.6)	6.33	0.012	0.08
Chronic physical illness	96 (17.3)	42 (12.1)	4.90	0.027	0.07
Psychological treatment	222 (40.1)	233 (67.3)	136.98	≤ 0.001	0.40
Psychiatric treatment	123 (22.2)	203 (58.7)	193.56	≤ 0.001	0.48
Psychopharmacological treatment	110 (19.9)	182 (52.6)	163.09	≤ 0.001	0.44
Type of psychotropic drug					
Psychostimulant	40 (36.4)	59 (32.4)	1.20	0.274	0.07
Antidepressant	22 (20)	64 (35.2)	5.95	0.015	0.14
Anxiolytic	8 (7.3)	36 (19.8)	7.27	0.007	0.16
Antipsychotic	58 (52.7)	138 (75.8)	11.66	0.001	0.20
Antiepileptic	29 (26.4)	41 (22.5)	1.12	0.289	0.06
Hypnotic	3 (2.7)	22 (12.1)	6.92	0.009	0.16
Another drug	0	5 (2.7)	2.88	0.090	0.10

Significant results are highlighted in bold. More than one category per case is possible

variables predicting referral to TRC among adolescents in the child welfare system. Significant differences have been found between adolescents in TRC and GRC in many different areas. In particular, adolescents in the TRC group were more likely to come from immigrant families, presented more family risk factors, a more intense history of child abuse and neglect, a more unstable process in RCC, as well as a worse mental health history. Some of these factors also resulted significant predictors of referral to TRC.

Regarding family characteristics, previous studies (Martín et al., 2017) have reported no significant differences between adolescents in TRC and in GRC. However, in our study, adolescents in TRC were less likely to be unaccompanied

migrant minors. This goes in line with previous studies showing that unaccompanied migrant minors often present with fewer mental health problems (González-García et al., 2017). On the other hand, adolescents in TRC were more likely to come from an immigrant family. It could be that a more difficult socioeconomic situation of immigrant families increases the risk of problems in the offspring. Previous studies have shown that socioeconomic difficulties might be responsible for the higher risk of children from immigrant families to be placed in care (Vinnerjung et al., 2008). This would be in line with our results indicating that adolescents in TRC presented with more family risk factors including poverty, criminal behavior and gender violence. In contrast,

Table 6 Logistic regression

Variable	B	95% CI		Exp (B)	p
		Inferior	Superior		
Immigrant family	1.068	1.620	5.221	2.908	≤ 0.001
Gender violence	0.933	1.594	4.051	2.541	≤ 0.001
Out-of-parental control	0.639	1.185	3.029	1.894	0.008
Child-to-parent violence	2.334	4.592	23.189	10.319	≤ 0.001
Physical or emotional neglect	1.852	3.921	10.349	6.370	≤ 0.001
Breakdown	0.712	1.145	3.630	2.039	0.016
Number of RC centers	0.899	2.005	3.013	2.458	≤ 0.001
Time spent in RC	− 0.016	0.978	0.991	0.985	≤ 0.001
Suicide behavior	1.236	1.293	9.162	3.442	0.013
Drug consumption	1.030	1.789	4.385	2.801	≤ 0.001

Significant results are highlighted in bold

intellectual disability in one or both parents was less frequent among adolescents in TRC programs. Effect sizes showed that the presence of gender violence in the family context was one of the most powerful factors, although still with a small effect size.

Results indicate that significant differences exist regarding the child welfare intervention process experienced by adolescents in TRC and GRC. Among adolescents in TRC, admission to the child welfare system was more frequently associated with experiences of child abuse and neglect, being out of parental control and child-to-parent violence, with the last two showing moderate effect sizes. This indicates important difficulties and conflicts in the family of origin. In fact, experiences of emotional abuse and neglect were significantly more likely among adolescents in TRC whereas adolescents in GRC were more likely to be admitted due to the impossibility to meet parental obligations by parents or being an unaccompanied migrant minor. As of the placement process, previous studies have reported more placement changes and instability in child care measures for adolescents in TRC (Ainsworth & Hansen, 2015; Martín et al., 2017; Robst et al., 2013). Our study confirms these results, indicating that adolescents in TRC have a profile characterized by instability and multiple placement breakdowns before referral to TRC programs, including adoption breakdowns. This highlights the need of early identification of difficulties and problems in adolescence and the provision of support services in adoption (Lushey et al., 2017; Paniagua et al., 2019). The number of placement changes requires attention in the child welfare system, given the associated negative consequences for mental health and social adjustment of children and adolescents (Newton et al., 2000). Additionally, our study also indicates that adolescents in TRC present with more victimization experiences and negative parental practices. This emphasizes the need for an adequate early detection of adolescents in RCC who might

benefit from referral to specialized services such as TRC due to their behavioral and emotional problems.

Regarding risk behaviors, medical history and mental health, our results indicate again a more severe profile of adolescents in TRC. Adolescents in TRC are often characterized by multiple risk behaviors such as runaway history (Attar-Schwartz, 2013; Sabaté-Tomàs, 2018) and criminal behavior (Robst et al., 2013; Sabaté-Tomàs, 2018). In fact, in previous studies, risk behaviors such as drugs use, violent behavior, runaway and criminal behavior have been reported among the reasons for admission and breakdowns (Águila-Otero et al., 2020), showing difficulties in the birth family life and other residential care facilities. Our study adds to the literature in reporting also a high prevalence of suicide behavior among adolescents in TRC, in comparison with adolescents in GRC and with previous studies (Evans et al., 2017; Martín et al., 2017). The higher prevalence of multiple risk behaviors is not surprising since previous studies with similar samples have shown that risk factors do not appear isolated, but in mutual interaction (Brown & Shillington, 2017; Sarri et al., 2016; Sellers et al., 2019).

High prevalence of alcohol and drug use and abuse has been reported among adolescents in residential care (Aarons et al., 2008; Traube et al., 2016). In fact, between 61 and 73% of adolescents have been reported to use drugs in this type of facilities (Águila-Otero et al., 2020; Sabaté-Tomàs, 2018). In particular, regarding adolescents in TRC, Fernández-Artamendi et al. (2020) have reported that 62.7% of adolescents in TRC programs scored in the clinical range for alcohol use problems and 58.4% scored in the clinical range for cannabis use problems. Our study indicates that the frequency of alcohol, cannabis, cocaine and other drugs use is significantly higher among adolescents in TRC compared to those in GRC. Moreover, drug consumption, and particularly cannabis use showed the highest effect size (still between small and moderate). This is not surprising given

the common association between cannabis use and externalizing and antisocial behavior (Popovici et al., 2014).

Previous studies have reported an over-representation of children and young people with intellectual disabilities in the child welfare system, and more specifically in residential care (Hill, 2012; Lightfoot et al., 2011). According to our results, no significant differences exist in the rates of intellectual, sensory, or physical disability between adolescents in TRC and GRC.

Regarding mental health problems, our results indicate that significant differences exist between adolescents in GRC and TRC, with the latter presenting more externalizing problems and disruptive behavior; with moderate and strong effect sizes respectively. Additionally, adolescents in TRC presented with significantly more thought and attentional problems compared to those in GRC. Previous research has reported the high prevalence of mental health problems among adolescents from GRC and TRC (Águila-Otero et al., 2020; Bronsard et al., 2016). Our study adds to this research indicating that a specific profile of externalizing, attentional and thought problems characterize adolescents in TRC. These results are not surprising considering the high levels of victimization and negative parenting practices experienced by adolescents, linked to multiple mental health problems (Cornellà-Font et al., 2020; Greger et al., 2015; Leeb et al., 2011; Martínez-Mota et al., 2020; Segura et al., 2016). Our results stress the importance of providing adolescents, particularly those in TRC, with specific resources for their mental health problems. Also, the lack of significant differences regarding internalizing problems suggests that maybe these problems may be overlooked when it comes to triggering referral to required TRC services.

Currently, results indicate that significantly more adolescents in TRC have received mental health treatment, including psychological, psychiatric, and psychopharmacological. This result is not surprising since TRC services are aimed at adolescents with mental health problems. It is also of great concern the high rate of prescription of psychotropic drugs among adolescents in TRC. In line with previous studies (Desjardins et al., 2017; Zito et al., 2008), we have observed a high frequency of prescription of psychostimulants and antipsychotics in both groups, with a particularly high rate of prescription of antipsychotics in the TRC group. However, it could be that antipsychotics are being used to treat behavioral symptoms, as previously reported (Pappadopulos et al., 2003). Within TRC youth, the prescription of two or more psychotropic drugs at the same time was also more frequent. Previous studies have already reported this trend of polypharmacy for young people in TRC (Breland-Noble et al., 2004; Griffith et al., 2012), highlighting the need of a therapeutic milieu that allows for the reduction of psychotropic medication and the improvement in the emotional and behavioral symptoms (Bellonci et al., 2013). Van Watum et al. (2013) have emphasized that polypharmacy

can be safely reduced, leading to more positive treatment outcomes and with more lasting effects.

Finally, and regarding predictors of referral to TRC, one previous study (Martín et al., 2017) with a small sample of adolescents indicated that the number of placement changes and drug use significantly predicted this referral. In our study, however, multiple variables have shown to increase the likelihood of referral to TRC, including variables related to sociodemographic characteristics (immigrant family and exposure to gender violence, physical and/or emotional neglect), child welfare intervention (child-to-parent violence as reason for admission in the child welfare system, and number of placement changes) and risk behaviors (drug abuse). Therefore, and according to our results, additional variables related to higher victimization and negative parenting practices, as well as drug abuse and unsuccessful experiences in the child welfare system also resulted significant predictors of referral to TRC.

Limitations

The present study is not without limitations. Firstly, the detection of mental health problems in young people has been carried out through self-reports. For this reason, rates should be interpreted with caution. Further studies could complement this self-reported assessment with information provided by an adult through other questionnaires such as the child behavior checklist (CBCL; Achenbach & Rescorla, 2001). However, the use of a comprehensive self-reported screening tool has allowed us to evaluate a wide variety of mental health problems while reducing fatigue of participants. Secondly, the background information of our participants has been collected from multiple third sources. Because of this, some data might have been missing due to misinformation of these sources. Also, no homogeneous recollecting data system currently exists in Spain, and some data could also be missing for some participants. However, by using multiple third sources, we have been able to attain a wide perspective of the profile and problems presented by these adolescents. Finally, the initial sample size and the prevalence of some sociodemographic characteristics was different for each group, due to a lower number of TRC facilities in comparison with other residential care facilities. Nevertheless, we have made our samples homogeneous in order to guarantee that none of these variables confounded our results.

Conclusion

Results showed significant differences in the profile of adolescents from GRC and TRC, with a more problematic profile among the latter. The instability in child welfare

interventions suggests a possible inadequate response of the child welfare system to the mental health needs and behavioral problems of adolescents, with an impact in their placement in residential care programs or foster/adoptive families. Another hypothesis could be that the number of placement changes is derived from a *trial and error* procedure before eventual referral to TRC programs, which would happen when no additional options are possible. However, these interpretations should be taken with caution since further research is clearly required.

These results stress the importance of having specific residential resources for adolescents with severe behavioral problems, preventing the use of less appropriate resources. With this purpose, appropriate early detection of mental health problems by means of solid screening instruments in residential child care is essential (Bronard et al., 2011; Sainero et al., 2014), guaranteeing the adequate referral to TRC or other therapeutic resources.

Additionally, and to avoid breakdowns, support services for family protective measures such as family foster care and adoption are highly recommended. Providing the staff with comprehensive training on children and adolescent mental health would also allow for a better detection, understanding and addressing of the youths' mental health needs. The implementation of these practices would work as a preventive measure of severe emotional and/or behavioral problems in children and adolescents in residential care (Del Valle et al., 2011).

The findings of this study shift the attention to externalizing problems in RCC population, particularly at early adolescence. Effective preventive strategies and early detection of mental health problems in children and young people in child care is essential to avoid an unstable child care process and to prevent further chronification of behavioral problems. The use of standardized tools within the child welfare system promotes a better collaboration between professionals and programs, contributing to enhance professional competence and confidence (Sletten & Ellingsen, 2020), and improving the services provided. Moreover, early detection of overall life skills for an independent life would facilitate individualization of services provided for adolescents in TRC (García-Alba et al., 2022). This type of programs should be implemented in all regions and facilities as a general policy and objective for the child welfare system. On the other hand, and despite TRC being thoroughly defined in recent international consensus (Whittaker et al., 2017), the referral criteria and methods used across TRC services differ considerably among countries. Consequently, an in-depth international assessment, comparison and consensus around such criteria is of great importance.

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