

Family members affected by multiple substance misuse relatives

Familiares afectados por el abuso de sustancias de otros parientes: características de una muestra brasileña

SILVIA PACHECO*, MARIA DE FÁTIMA RATO PADIN*,**, HELENA MIYACO TAKEYAMA SAKIYAMA*, MARTHA CANFIELD***, CASSANDRA BORGES BORTOLON*, QUIRINO CORDEIRO JR, SANDRO SENDIN MITSUHIRO*,**, RONALDO LARANJEIRA*,**.

* Department of Psychiatry, Federal University São Paulo, Brazil.

** National Institute of Public Policy for Alcohol and Other Drugs, Brazil.

*** Health Psychology Section, Psychology Department, Institute of Psychiatry, Psychology and Neuroscience, King's College London.

Abstract

Purpose: The heterogenic characteristics of affected family members (AFMs) of substance misusing relative (SMR) remain understudied. This study examined the occurrence and correlates of AFMs having more than one relative with substance use problems. *Material and Methods:* A secondary analysis of a cross-sectional study on the characteristics of affected family members in Brazil was performed (N= 3157). Levels of AFM stress, strain, coping and hopefulness were assessed. Factors associated with AFMs having other substance misusing relatives (other-SMRs) were explored using univariate logistic regressions. *Results:* The occurrence of having other-SMR was reported by 61.6% of the sample (1945/3157). Of this, 47% (904/1945) reported that the other-SMR was a member of the SMR's immediate family (spouse/partner/children/siblings). The likelihood of having other-SMRs was related to the AFM being female, from a low socioeconomic background, between the age of 35-44 years older, being SMR's mother or wife/girlfriend/fiancée, scoring higher on family member impact, psychological and physical symptoms, withdrawal coping and to have an older SMR. *Conclusion:* Information about the characteristics of AFMs is key to understanding how the experience of harm associated with the relative's problem might manifest. Our findings offer information that could be used when developing interventions aimed at reducing the harm experienced by AFMs.

Keywords: Affected family members; Substance misusing relative; Characteristics; Strains.

Resumen

Objetivo: Las características heterogéneas de familiares afectados (FA) de familiares con abuso de sustancias (FAS) han sido objeto de pocos estudios. Este estudio revisó la ocurrencia y los correlatos de FA con uno o más familiares con problemas de abuso de sustancias. *Materiales y Métodos:* Análisis secundario de un estudio transversal sobre las características de FA en Brasil (N = 3157). Valoramos los niveles de los FA de estrés, presión, afrontamiento y esperanza. Exploramos los factores asociados con los FA que tenían otros familiares con abuso de sustancias (otros-FAS) mediante regresiones logísticas ordinales. *Resultados:* El 61,6% de la muestra (1945/3157) informó de la ocurrencia de otros-FAS. De estos, el 47% (904/1945) informó que los otros-FAS eran familiares directos del FAS (cónyuge/pareja/hijos/hermanos). La probabilidad de ocurrencia de otros-FAS estaba relacionada con que el FAS fuese mujer, de bajo nivel socioeconómico (NSE), con una edad entre los 35-44 años, fuese la madre o esposa/novia/prometida del FAS, obtuviese una puntuación más alta en impacto familiar, síntomas psicológicos y físicos, evitamiento como mecanismo de afrontamiento, y que tuviese un FAS mayor. *Conclusión:* Información sobre las características de los FA es clave para entender cómo puede manifestarse la experiencia de daños asociados con el problema del familiar. Nuestros hallazgos aportan datos que pueden ser útiles para desarrollar intervenciones con el objetivo de reducir los daños sufridos por los FA.

Palabras clave: Familiares afectados; Familiar con abuso de sustancias; Características; Presiones.

Received: March 2019; Accepted: September 2019.

Send correspondence to:

Silvia Pacheco. Clinica Gressus. Alameda Canuri, 97 – Planalto Paulista. Sao Paulo 04061-030
E-mail: sleitepacheco@gmail.com

Introduction

Having a substance misusing relative (SMR) is a leading contributor to disease burden in family members (Mattoo, Nebhinani, Kumar, Basu & Kulhara, 2013; Orford et al., 2013; Richert, Johnson & Svensson, 2018). Among the many adverse effects experienced by affected family members (AFMs) of a substance misusing relative are high levels of anxiety, stress, powerlessness, guilt and shame (Orford, Velleman, Natera, Templeton & Copello, 2013; Bortolon et al., 2016; Bortolon et al., 2017). It is also common for AFMs to detach themselves from friends (Jackson, Usher & O'Brien, 2007), feel isolated and experience difficulties in obtaining good quality social support from their social network (Orford, Velleman, Copello, Templeton & Ibinga, 2010). According to the *stress-strain-coping-support* (SSCS) model of the harm experienced by family members (Orford, Copello, Velleman & Templeton, 2010), the types of support AFMs receive and the strategies which they adopt to cope with the problematic use of substances by the relative are the key moderator factors in the strain-stress relationship (Arcidiacono et al., 2010; Lee et al., 2011).

While there seems to exist a common harm of how AFMs experience the substance use problem of the relative, studies have also shown that the way harm manifests itself might vary (Orford, 2017). Despite this, we know very little about the heterogenic characteristics of AFMs as the majority of studies have been conducted using samples of partners and children of substance using people, or have focused mainly on the family as a system (Orford et al., 2013). This paper seeks to expand the current understanding of the characteristics of AFMs by investigating those family members who have more than one relative misusing substances. While not everyone who misuses substances come from families with substance use problems, epidemiological studies show that patterns of substance use in the family is an influential factor for substance misuse (Mendoza & Vargas, 2017; Canavez, Alves & Canavez, 2017). To our knowledge, there are no studies investigating how family members cope with SMRs in the context of also having other substance misusing relatives (other-SMRs) in the family. Therefore, there is no available information on its prevalence and the experiences of these AFMs. Such information is required to enable family-focused services to understand who are the AFMs and to help reduce the impact to individual family members and to the entire family unit. A growing body of evidence recognizes that direct support of AFMs plays an important role in promoting treatment uptake and engagement of the SMRs (O'Farrell & Fals-Stewart, 2006; Roozen, de Waart & der Kroft, 2010) as well as reducing the psychological, physical and financial burden on AFMs (Copello, Templeton & Powell, 2010).

Our study draws on data from the largest observational study conducted on the experiences of AFMs (Orford,

Padin, Canfield, Sakiyama, Laranjeira & Mitsuhiro, 2017). Our objectives are twofold: i) to examine the occurrence of Brazilian family members affected by their relatives' substance misuse also having other family member(s) with substance use problems; and ii) to describe sociodemographic, health and substance using characteristics associated with AFMs having other family members with substance use problems.

Methods

A secondary analysis of data drawn from a cross-sectional study on the characteristics of affected family members in Brazil (Orford et al., 2017b) was performed. The sample consisted of 3,157 participants recruited from all five geographic regions in Brazil. Recruitment sites were: therapeutic communities, self-help group Amor Exigente, pastoral groups Sobriedade, narcotics anonymous, alcoholic anonymous, and residential/rehabilitation clinics. Participants recruited from residential and rehabilitation clinics were invited to participate by researchers during their visits of the SMR, while participants recruited from self-help groups were invited during group sessions. No participation restrictions were imposed in terms of sex, age and relationship with the SMR. Participation in the study was voluntary and all participants gave fully informed consent. Questionnaires were administered by trained interviewers. Ethical approval for the studies was provided by the Comitê de Ética da Faculdade de Medicina da Universidade Federal de São Paulo (CEP 1784/08).

Assessment

Participants' age, relationship status, family relationship with SMR, number of people living in the same household were collected. Socio-economic status was estimated based on the sum of the following characteristics (each scored 0, 1, or 2): education level, number of cars/bathrooms and housemaids, with the total ranging from 0 to 8.

Participants were asked to report characteristics of the SMR including gender, age and substance of preference. Participants were also asked to indicate whether they had other substance misusing relatives (other-SMR) and whether this other relative had psychiatric problems. Other-SMR being as immediate family was defined as spouse, partner, children or siblings of the SMR.

Psychological and physical characteristics of the participants were measured by the Brazilian adapted version (Sola et al., 2019) of a set of standard measures for the assessment of coping (COPE), hopefulness (HOPE), stress (FMI) and strain (SRT) of family members affected by a relative's substance misuse (Orford, Templeton, Velleman & Copello, 2005) (supplementary material for further information).

Analysis

Descriptive statistics were calculated using frequencies and percentages for categorical data and means and standard deviations for continuous data. The association between variables with having other-SMR was examined in univariate logistic regressions. Odds ratios (OR) and 95% confidence intervals (95% CI) were reported. Table 1 presents the distribution of responses according to having other-SMR in the family.

Results

Sample characteristics

The sample characteristics are described in detail in Orford (2017). Briefly, the majority of participants (68.4%)

were aged 45 years or above, 79.6% were female, 68.6% were white, 58.0% were currently married or had an intimate partner and 57.8% reported being the main financial provider in the home/family. Parents of SMRs accounted for 57.9% of the sample, followed by spouses/partners (13.6%) and siblings (12%). According to the AFM respondents, the most commonly used drugs by the SMRs were cannabis, cocaine and crack-cocaine. 18.5% reported alcohol as the SMRs' preferential substance of use.

The occurrence of AFMs having other-SMR was high (61.6%, 1945/3157). Of this, 24% of other-SMR were parents of the SMR (467/1945), while 22.5% were siblings (437/1945). There was also a substantial number of extended family including cousins (24.6%), uncles (16.2%) and grandparents (9.2%) misusing substance.

Table 1. Characteristics associated with AFMs having any other relative with substance use problems.

	Having other relative with substance misuse problems		
	No (N = 1211)	Yes (N = 1945)	OR (95% CI)
AFM			
Female	897 (74.4%)	1616 (83.08%)	1.73 (1.4.5, 2.07)**
<i>Age</i>			
25 year or below	58 (4.8%)	77 (4.0%)	-
Between 25-34 years	129 (10.7%)	203 (10.4%)	1.18 (.79, 1.78)
Between 35-44 years	169 (14.0%)	343 (17.7%)	1.53 (1.04, 2.25)*
45 year or above	848 (70.3%)	1314 (67.5%)	1.25 (.88, 1.79)
SES (range 0-8, Mean, SD)	2.96 (2.06)	2.77 (2.05)	.93 (.89, .97)*
<i>Relation with the SMR</i>			
Mother	529 (43.8%)	936 (48.1%)	1.20 (1.04, 1.38)*
Father	221 (18.2%)	198 (10.2%)	.51 (.41, .62)*
Female partner	124 (10.2%)	279 (14.3%)	1.20 (1.04, 1.38)*
Male partner	6 (.5%)	19 (1.0%)	1.98 (.79, 4.98)
Sibling	142 (11.7%)	258 (13.3%)	1.15 (.93, 1.43)
Child	33 (2.7%)	62 (3.2%)	1.18 (.77, 1.81)
<i>Psychological characteristics (Mean, SD)</i>			
Hopefulness	36.55 (5.34)	36.27 (5.47)	.99 (.98, 1.01)
Family Member Impact	33.00 (11.30)	33.83 (11.55)	1.02 (1.00, 1.01)*
Psychological symptoms	24.38 (6.28)	25.17 (6.48)	1.02 (1.01, 1.03)*
Coping engagement	30.15 (11.83)	29.96 (11.78)	1.00 (.99, 1.01)
Coping tolerant	14.49 (5.37)	14.80 (5.24)	1.01 (.99, 1.02)
Coping withdrawal	12.36 (4.13)	12.71 (4.15)	1.02 (1.00, 1.04)*
<i>Physical health ((Mean, SD)</i>			
Physical symptoms	22.09 (6.31)	22.09 (22.80)	1.02 (1.01, 1.03)*
SMR			
Female	66 (5.4%)	120 (6.2%)	1.42 (.84, 1.56)
Age ((Mean, SD)	31.02 (10.55)	32.42 (11.56)	1.01 (1.00, 1.02)*
<i>Substance use regularly</i>			
Cannabis	850 (70.2%)	1309 (67.3%)	.87 (.75, 1.02)
Cocaine	171 (14.1%)	256 (13.2%)	.92 (.75, 1.13)
Crack-cocaine	61 (5.0%)	45 (2.3%)	.45 (.30, .66)**
Other substances ¹	27 (2.2%)	28 (1.4%)	.64 (.38, 1.09)
Alcohol as substance of preference	155 (13%)	430 (22.7%)	1.96 (1.60, 2.39)*

Table S1. Description of the Brazilian adapted version of a set of standard measures for the assessment of coping, hopefulness, stress and strain of AFMs (Sola et al., 2019)

Questionnaire	Purpose	Number of items	Item example	Scores	Cronbach's alpha
Coping questionnaire (COPE)	To assess three constructs related to how AFM have coped with their relatives' problem substance misusing: engaged coping, tolerant-inactive coping, and withdrawal coping	17	<i>Sat down with him to help him sort out the financial situation?</i> (engagement) <i>Felt too frightened to do anything?</i> (tolerant-inactive) <i>Put the interests of other members of the family before his?</i> (withdrawal)	Participants were asked to report how often in the last 3 months they coped in each way using a Likert Scale ranging from 0 (never) to 3 (often) Scores were calculated for the three subscales separately	.76 for engagement, .75 for tolerant-inactive, and .62 for withdrawal
Hopefulness-hopelessness scale (HOPE)	To assess two constructs related to how AFM currently feels about the future of the substance misuse problem in the relative: AFM own feelings and perceptions of the SMR	9	<i>I am now starting to anticipate a new future</i> (feelings) <i>I worry that s/he will use till the end</i> (perceptions)	Participants were asked to report the level of agreement with each statement using a Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree) Total score was calculated	.79 for feelings, and .69 for perceptions
Family member impact (FMI)	To assess the two constructs about how the AFM perceive the impact of the relative's substance misusing on the family: worrying behaviour and active disturbance	10	<i>Are you worried that your relative has neglected his/her appearance or self-care?</i> (worrying) <i>Does your relative have very changeable moods?</i> (disturbance)	Participants were asked to report how often they experienced each thought in the last 3 months using a Likert scale ranging from 0 (not at all) to 3 (often) Total score was calculated	.78 for worrying, and .86 for active disturbance
Symptom rating test (SRT)	To assess two different constructs: Psychological symptoms and Physical symptoms –	28	<i>Feeling scared or frightened</i> (psychological symptoms) <i>Feeling dizzy or faint</i> (physical symptoms)	Participants were asked to report how often they experienced each symptom in the last 3 months using a Likert scale ranging from 0 (never) to 2 (often) Scores were calculated for the two subscales separately	.91 for psychological symptoms, and .86 for physical symptoms

The occurrence of other-SMR being a member of SMR's immediate family (spouse/partner/children/siblings) was 46.5% (904/1945). Nearly a quarter of the sample of AFMs with other-SMRs indicated that this other relative also had other psychiatric problems (19.5%, 379/1945).

Characteristics associated with having other relative misusing substances

Univariate analysis (Table 1) revealed that compared to those AFMs that reported not having other-SMRs, those AFMs who had reported were statistically significantly more likely to be female, between the age of 35-44 years older, having a SMR who is older, being SMR's mothers or wife/girlfriend/fiancée, scoring higher on family member impact, psychological and physical symptoms, and engaging in withdrawal coping. AFMs with other-SMRs were also less likely to report higher socioeconomic status and to be SMRs' father.

Discussion

Our results show that a high proportion of AFMs have other-SMRs in the family. Of this, approximately 4 in 10 reported that the other-SMR is a member of SMR's immediate family, specifically a parent or a sibling of the SMR. Female AFMs (in particular mothers and partners) were more likely to have other-SMRs than male AFMs and AFMs

were more likely to be in middle age group (35 to 44 years old). While there are no studies looking specifically at AFMs having other-SMR, our findings are comparable to the high prevalence of female caregivers attending substance use treatment/support groups reported in other studies, especially mothers (Bortolon et al., 2016; Sakiyama, Padin, Canfield, Laranjeira & Mitsuhiro, 2015; Tamutiene & Laslett, 2017). Lower social-economic status was associated with the likelihood of AFMs having other-SMRs. This finding has important implications since few other studies highlight the need to recognize the level of hardship of the AFM to be able to understand the effects of addiction in the family (Lee et al., 2011; Orford et al., 2001, 2005).

Reports of mental health problems in the other-SMRs were common. Regarding the characteristics of the SMRs, we found that those participants who reported alcohol as the preferred substance of the relative were more likely to have other-SMRs compared to addictions to other substances. Whilst this could potentially be a reporting bias as alcohol use may be over-reported due to easier disclosure compared to illicit drug use; a growing body of evidence recognizes the role of alcohol intake in the family as a determinant of alcohol use in other members, especially in children (Casswell, You & Huckle, 2011; Hutchinson, Mattick, Braunstein, Maloney & Wilson, 2014; Velleman & Templeton, 2016). Alcohol consumption in Brazil is high (Caetano, Madrugá, Pinsky & Laranjeira, 2013). In a study

of adolescents in Brazil, 88% of the respondents reported having a family member who drinks alcohol frequently. Of this, 54% reported parents as the relative and 31% indicated that their alcohol consumption was influenced by the alcohol use in the family (Santos & Almeida, 2013). Our study also found a positive association between the age of the SMR and the likelihood of AFMs having other-SMRs. This may reflect an association between exposure and substance use, where the SMR may play an influential role for other members of the family.

The likelihood of having other-SMRs in the family increased for those AFMs with higher levels of family impact and psychological and physical symptoms. All these health aspects are consistent with the burden domain of the *stress-strain-coping-support* (SSCS) model (Orford et al., 2010). Those family members who reported higher levels of coping by withdrawal also have a stronger tendency to have other-SMR in the family. Potential explanations for these associations might be that in the face of high exposure to substance use problems, family members with other-SMRs might have learned to detach themselves from the SMR and to carry on with their lives while experiencing great levels of strain. Previous studies have demonstrated that certain AFM groups have a greater tendency to adopt certain coping strategies than others (Church, 2018; Lee et al., 2011). For instance, female partners of substance users showed a pattern of high tolerance and engagement coping strategies, while male partners of alcohol users showed a pattern of high withdrawal (Orford, 2017). Our findings provide additional information about strains and coping mechanisms of a particular AFM's group that could be applied when designing interventions to address the burden of family members. In particular, we would recommend that interventions incorporate content related to the extent to which the mental and physical health is affected by AFMs' ability to cope with the problems associated with substance use in the family. Interventions targeting coping strategies have shown promise in reducing AFMs' stress and self-blame, and improving ability to communicate with their relative (Copello et al., 2009; Kelly Fallah-Sohy, Cristello & Bergman, 2017). However, it is necessary to identify AFMs who have experienced the substance use problems in other members of the family, as they may be at increased risk of experiencing higher levels of burden. Our findings showed a need to support those AFMs having other-SMR who are women, from lower socio-economic status and have a SMR with alcohol problems. Interventions to improve the adoption of positive coping strategies and the well-being of AFMs as well as their participation in the SMR's treatment will need to be tailored to these characteristics.

Strengths and limitations

A limitation of this study is that the data is restricted to participants self-reporting substance use problems in other

family members. As previously raised, response bias may be present with regards to the self-reported substance use or preference of the SMR. In addition, this secondary analysis is limited by the cross-sectional design of the original study (Orford, 2017), which only allows determining associations between variables rather than causality. Despite these limitations, the study included a large sample size allowing sufficient power to examine a specific group of AFMs.

Conclusion

This study provides evidence that having more than one relative who misuses substances is common among AFMs. Factors associated with having other-SMRs were identified. Understanding the characteristics of AFMs is key to understanding how the experience of harm associated with the relative's problem might manifest across groups. Interventions aimed at AFMs in Brazil are urgently needed (Orford et al., 2017; Sakiyama et al., 2015). The characteristics identified in this study offer information that could be used when developing interventions aimed at reducing the negative impact experienced by AFMs in Brazil.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the National Council for Scientific and Technological Development (CNPq) [grant number 550023/2011-9] and Sao Paulo Research Foundation (FAPESP) [grant number 57714-7].

References

- Arcidiacono, C., Velleman, R., Procentese, F., Berti, P., Albanesi, C., Sommantico, M. & Copello, A. (2010). Italian families living with relatives with alcohol or drugs problems. *Drugs: Education, Prevention and Policy*, 17, 659-680. doi:10.3109/09687630902824262.
- Bortolon, C. B., Signor, L., Moreira, T. D. C., Figueiró, L. R., Benchaya, M. C., Machado, C. A., ... Barros, H. M. T. (2016). Family functioning and health issues associated with codependency in families of drug users. *Ciencia & Saude Coletiva*, 21, 101-107. doi:10.1590/1413-81232015211.20662014.
- Bortolon, C.B., Moreira, T.C., Signor L., Guahyba B.L., Figueiró L.R., Ferigolo M. & Barros, H. M. T. (2017). Six-month outcomes of a randomized, motivational teleintervention for change in the codependent behavior of family members of drug users. *Substance Use & Misuse*, 52, 164-174. doi:10.1080/10826084.2016.1223134.

- Caetano, R., Madrugá, C., Pinsky, I. & Laranjeira, R. R. (2013). Drinking patterns and associated problems in Brazil. *Adicciones*, 25, 287-293.
- Casswell, S., You, R. Q. & Huckle, T. (2011). Alcohol's harm to others: reduced wellbeing and health status for those with heavy drinkers in their lives. *Addiction*, 106, 1087-1094. doi:10.1111/j.1360-0443.2011.03361.x.
- Canavez, M. F., Alves, A. R. & Canavez, L. S. (2017). Fatores predisponentes para o uso precoce de drogas por adolescentes. *Cadernos Unifoa*, 5, 57-63.
- Church, S., Bhatia, U., Velleman, R., Velleman, G., Orford, J., Rane, A. & Nadkarni, A. (2018). Coping strategies and support structures of family members affected by their relative's drinking: a qualitative study from Goa, India. *Families, Systems, & Health*, 36, 216-224.
- Copello A., Templeton L. & Powell J. (2010). The impact of addiction on the family: Estimates of prevalence and costs. *Drugs: Education, Prevention and Policy*, 17, 63-74. doi: 10.3109/09687637.2010.514798.
- Copello, A., Templeton, L., Orford, J., Patel A, Moore L., MacLeop J. & Godfrey C. (2009). The relative efficacy of two levels of a primary care intervention for family members affected by the addiction problem of a close relative: A randomized trial. *Addiction*, 104, 49-58. doi:10.1111/j.1360-0443.2008.02417.x.
- Jackson, D., Usher, K. & O'Brien, L. (2007). Fractured families: parental perspectives of the effects of adolescent drug abuse on family life. *Contemporary Nurse*, 23, 321-330. doi:10.5172/conu.2006.23.2.321.
- Hutchinson, D., Mattick, R., Braunstein, D., Maloney, E. & Wilson, J. (2014). The impact of alcohol use disorders on family life: A review of the empirical literature. Sydney: University of New South Wales.
- Kelly, J. F., Fallah-Sohy, N., Cristello, J. & Bergman, B. (2017). Coping with the enduring unpredictability of opioid addiction: An investigation of a novel family focused peer-support organization. *Journal of Substance Abuse Treatment*, 77, 193-200. doi:10.1016/j.jsat.2017.02.010.
- Lee, K. M. T., Manning, V., Teoh, H. C., Winslow, M., Lee, A., Subramaniam, M., ... Wong, K. E. (2011). Stress-coping morbidity among family members of addiction patients in Singapore. *Drug and Alcohol Review*, 30, 441-447. doi:10.1111/j.1465-3362.2011.00301.x.
- Mattoo, S. K., Nebhinani, N., Kumar, B. A., Basu, D. & Kulkhara, P. (2013). Family burden with substance dependence: a study from India. *The Indian Journal of Medical Research*, 137, 704.
- Mendoza Carmona, Y. L. & Vargas Peña, K. (2017). Factores psicosociales asociados al consumo y adicción a sustancias psicoactivas. *Revista Electrónica de Psicología Iztacala*, 20, 139-167.
- O'Farrell T. & Fals-Stewart W. (2006). Behavioural couples therapy for alcoholism and drug abuse. Guilford Press, New York.
- Orford, J., Natera, G., Velleman, R., Copello, A., Bowie, N., Bradbury, C., ... Tiburcio, M. (2001). Ways of coping and the health of relatives facing drug and alcohol problems in Mexico and England. *Addiction*, 96, 761-774. doi:10.1046/j.1360-0443.2001.96576111.x.
- Orford, J., Templeton, L., Velleman, R. & Copello, A. (2005). Family members of relatives with alcohol, drug and gambling problems: a set of standardized questionnaires for assessing stress, coping and strain. *Addiction*, 100, 1611-1624. doi:10.1111/j.1360-0443.2005.01178.x.
- Orford, J., Copello, A., Velleman, R. & Templeton, L. (2010). Family members affected by a close relative's addiction: The stress-strain-coping-support model. *Drugs: Education, Prevention and Policy*, 17, 36-43. doi:10.3109/09687637.2010.514801.
- Orford, J., Velleman, R., Copello, A., Templeton, L. & Ibanga, A. (2010). The experiences of affected family members: A summary of two decades of qualitative research. *Drugs: Education, Prevention and Policy*, 17, 44-62. doi:10.3109/09687637.2010.514192.
- Orford, J., Velleman, R., Natera, G., Templeton, L. & Copello, A. (2013). Addiction in the family is a major but neglected contributor to the global burden of adult ill-health. *Social Science & Medicine*, 78, 70-77. doi:10.1016/j.socscimed.2012.11.036.
- Orford, J. (2017). How does the common core to the harm experienced by affected family members vary by relationship, social and cultural factors? *Drugs: Education, Prevention and Policy*, 24, 9-16. doi:10.1080/09687637.2016.1189876.
- Orford, J., Padin, M. D. F. R., Canfield, M., Sakiyama, H. M., Laranjeira, R. & Mitsuhiro, S. S. (2017b). The burden experienced by Brazilian family members affected by their relatives' alcohol or drug misuse. *Drugs: Education, Prevention and Policy*, 26, 157-165. doi:10.1080/09687637.2017.1393500.
- Richert, T., Johnson, B. & Svensson, B. (2018). Being a parent to an adult child with drug problems: Negative impacts on life situation, health, and emotions. *Journal of Family Issues*, 39, 2311-2335. doi:10.1177/0192513X17748695.
- Roozen, H. G., de Waart, R. & der Kroft, P. (2010). Community reinforcement and family training: an effective option to engage treatment-resistant substance-abusing individuals in treatment. *Addiction*, 105, 1729-1738. doi:10.1111/j.1360-0443.2010.03016.x.
- Sakiyama, H. M., Padin, M. D. F. R., Canfield, M., Laranjeira, R. & Mitsuhiro, S. S. (2015). Family members affected by a relative's substance misuse looking for social support: Who are they? *Drug and Alcohol Dependence*, 147, 276-279. doi:10.1016/j.drugalcdep.2014.11.030.

- Santos, V. C. & Almeida, O. D. S. (2013). Caracterização do consumo de álcool entre estudantes do ensino médio. *Revista Baiana de Saúde Pública*, 36, 418.
- Sola, V., Sakiyama, H. M. T., Padin, M. F. R., Canfield, M., Bortolon, C., B., Laranjeira, R. & Mitsuhiro, S. (2019). Measuring stress, coping, strain and hopefulness of Brazilian family members of substance misusers: Factor structure of a set of measures. *Journal of Substance Use*, 24, 130-139. doi:10.1080/14659891.2018.1523963.
- Tamutiene, I. & Laslett, A. M. (2017). Associative stigma and other harms in a sample of families of heavy drinkers in Lithuania. *Journal of Substance Use*, 22, 425-433. doi:10.1080/14659891.2016.1232760.
- Velleman, R. & Templeton, L. J. (2016). Impact of parents' substance misuse on children: an update. *BJPsych Advances*, 22, 108-117. doi:10.1192/apt.bp.114.014449.

