

Problem areas reported by individuals with substance use disorders and their concerned significant others

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Abstract

The goal of this study was to describe the problem areas that patients with substance use disorders and their family members experience in terms of quality of relations, psychological problems, physical distress and quality of life. A sample of 64 participants, drawn from an outpatient addictions treatment center, participated in the present study. Two subgroups of patient-family member pairs were demarcated with respect to the type of relationship: 1) adult patients and their partners (n = 44) and 2) adolescent patients and parents (n = 20). Family members reported that, on average, a mean of four significant others were directly affected by patients' addiction related problems. In contrast, the patients reported on average less than three family members were affected by their addiction. Consistently, the collapsed patient group reported significantly higher happiness scores on several life areas than concerned family members, such as finances, outdoor social activities, joint pleasant activities and emotional support. Patients and their family members reported comparable levels of physical and psychological distress, quality of life scores and commitment in their relationship. Family members reported lower scores on quality of dyadic relationships. A general tendency was found for parents to report lower happiness scores than partners. Overall, it appears that family members evaluate the consequences of patients' addictive behaviors as more negative and more severe than the patients themselves. These findings contribute to the notion that family members need help to diminish the disruption of their family life, to improve their own physical and psychological wellbeing and to cope with the ongoing substance use.

Keywords: Addiction; Alcohol; Drugs; Relation; Family; Parents; Questionnaire.

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Introduction

Addiction is considered a chronic and relapsing psychiatric disorder (Leshner, 1997; McLellan, 2002; Volkow, Fowler & Wang, 2004), characterized by deleteriously intermittent patterns of relapse that occur even in the face of negative consequences. Several of these negative consequences frequently have a profound impact on the lives of concerned family members and friends (Collins, Leonard & Searles, 1990), and many substance users live within a social context that may include (grand) parents, partners, spouses, children, or family members that may extend beyond the nuclear family. Approximately half of American adults have a close family member with a substance use disorder (SUD) (U.S. Department of Health and Human Services, 1995). More specifically, it has been estimated that for every drug or alcohol abusing individual, approximately five individuals suffer its consequences directly (Daley & Raskin, 1991; Paolino & McCrady, 1977). The myriad of negative impacts on family members often encompass multiple problems in different life areas, including economic, psychological, familial, and intimate relationships (Fals-Stewart, Birchler & O'Farrell, 1999; Kahler, McCrady & Epstein, 2003; Kirby, Leggett Dugosh, Benishek & Harrington, 2005; Winters, Fals-Stewart, O'Farrell, Birchler & Kelly, 2002).

Consistent with the chronic and often progressive nature of addiction, concerned significant others (CSOs) are additionally affected because they face a long-lasting increase in responsibilities when living together with an addicted patient (cf. Baanders & Heijmans, 2007). In addition, it is conceivable that patients' unpredictability, intermittent relapses, and the anticipation of bad days may lead these family members to set aside their own needs, reorganize their lives in advance, or feel that their personal achievements are hindered. That said, patients and their CSOs may hold disparate and/or incompatible cognitions, attitudes, expectations and treatment representations about their problems (Bamford, Barrowclough & Booth, 2007; Heijmans, De Ridder & Bensing, 1999). It has been suggested that the

dissatisfaction with relationships is generally reciprocated. For instance, addiction related problems may impact existing marital and family problems, and vice-versa (Magura & Shapiro, 1988; Wilsnack, Wilsnack, & Klassen, 1986). CSOs may evaluate the consequences of addictive behaviors as more severe than the patients, which is designated as 'problem maximization'. Conversely, a CSO may not perceive the consequences of the addiction problem as serious as the patient claims. This is called 'problem minimization' (Heijmans, De Ridder & Bensing, 1998; Thompson & Pitts, 1992). Analogue to CSOs, patients can also under- and overestimate the consequences of their addictive behavior, since it has been shown that heavy drinkers tend to minimize the negative consequences of their drinking behavior (Hansen, Raynor & Wolkenstein, 1991; Wild, Hinson, Cunningham & Bacchiocchi, 2001).

Previous research (Velleman, Bennett, Miller, Orford, Rigby & Tod, 1993) has found only minor differences between partners and parents of patients in the reported frequency of problematic behavior, although there were marked differences in the nature of problem behaviors in the areas of physical violence, unpredictable mood changes, threatening behavior, manipulation and lying. Other research findings reveal that the social adjustment of both partners and parents of illicit drug users is profoundly compromised compared to a community sample, but that partners of illicit drug users reported poorer adjustment than parents of illicit drug users overall and specifically in the areas of marital and economic functioning (Hudson, Kirby, Festinger & Marlowe, 2002).

The purpose of the present study was to quantify problem areas that patients and their CSOs experience in terms of quality of relations, psychological problems, physical distress and quality of life. Two subgroups of participants were demarcated with respect to the type of relationships: 1) adult patients and their partners, and 2) adolescent patients and (grand)parents. The results may contribute to the development of more effective behavioral

interventions by providing insight on the underlying problems in the familial relationships of persons with SUDs, particularly in different types of relationships.

It is hypothesized that:

1. CSOs experience higher levels of physical and psychological distress and lower levels of happiness and quality of life scores than patients. This is expected since former research shows that substance abusers tend to trivialize the negative consequences due to substance abuse (Hansen, Raynor & Wolkenstein, 1991; Wild, Hinson, Cunningham & Bacchiochi, 2001). In addition, it was found that minimization of the impact of chronic illness by patients leads to a tendency to maximize the impact of chronic illness by spouses (Heijmans, De Ridder & Bensing, 1998).
2. The findings from previous American research, which has shown that five individuals suffering negative consequences of substance abuse directly (Paolino & McCrady, 1977), is comparable to the Dutch population.
3. Parents suffer more negative consequences from individuals with substance use disorders than partners. It has been demonstrated that parents were highly prevalent in seeking help to get their adolescent child in treatment in several CRAFT studies, which was proportionally much higher than partners (Meyers, Miller, Smith & Tonigan, 2002; Miller, Meyers & Tonigan, 1999).

Method

Participants

Participants were identified and contacted at the outpatient Bouman mental health treatment centre in Spijkenisse and Rotterdam, The Netherlands, between May 2009 and December 2009. The patients with substance use disorders had to meet DSM-IV-R criteria for a substance use disorder (American Psychiatric Association, 1994) and had been admitted for

outpatient treatment. Based on the available medical records, 41 eligible patients were identified for the present study. Subsequently, these patients were contacted consecutively to be invited to participate and to determine if a CSO was willing to participate in this study as well. To be considered eligible the included CSOs had to meet the following criteria (Meyers, Miller, Hill & Tonigan, 1998): (a) be a first-degree relative, spouse, intimate partner, or someone who lives with the substance using patient; (b) be at least 18 years of age; (c) have contact with the patient on at least 40% of the last 90 days; (d) live within the vicinity of Rotterdam, the Netherlands (with a maximum of 15 miles away from the treatment center); (e) had not been diagnosed with a substance use disorder themselves.

Of potential participants who were contacted, 21.8% were ineligible or did not participate in the study because lack of motivation to cooperate (4.8%), unwillingness to fill in questionnaires (completely) (12.2%), or because only one member of a couple (patient or significant other) was willing to return the questionnaire (4.8%). The positive response rate of 78.2% resulted in a total of 64 study participants (32 patients and their CSOs). Male/female distribution is depicted in table 1. All patients and CSOs (partners and (grand)parents) participated on a voluntary basis and gave their informed consent prior to inclusion.

Table 1 depicts the characteristics of the included participants. The adult patient group was characterized by alcohol use disorders and the adolescent patients reported primarily illicit drug use. The adult patient group reported significantly [$t(30)=2.69, p=.012$] more years of problematic use of their reported primary substance ($M=7.77; SD=5.81$) than adolescents ($M=3.95; SD=2.22$). The mean relationship duration of the adult patients and their partners was 20.14 years ($SD=13.79$). The majority of these couples (54.5%) had children living at home. The mean number of children was 1.80 ($SD=1.17$). In the adult patient group 9.1% of the participants had been convicted of a criminal act and consequently had been incarcerated.

Among partners 4.8% had been convicted of a criminal act, but none of the partners had been incarcerated.

In the parent group 60.0% were married or cohabiting; the remaining 40.0% were divorced or widowed. All adolescent patients were living together with their parent(s). Seventy percent of the adolescent patients were single and the others were involved into a romantic relationship (but were not cohabiting). These parents had a mean of 2.30 children ($SD=0.82$). None of the parents had been convicted or in detention. Although 20% of the adolescents were criminal offenders, none of them had been in prison.

Pertaining to the collapsed groups CSOs were ($M=47.34$; $SD= 11.65$) were statistically significant older than patients ($M=38.34$; $SD= 14.10$) [$t(62)= 2.78$, $p=.007$]. Secondly, CSOs were characterized by females (78.1%) and patients by males (75.0%) [$\chi^2=18.08$, $p=.000$]. Thirdly, as expected, patients ($M= 15.00$, $SD=7.98$) scored significantly higher on the AUDIT than CSOs ($M=2.38$, $SD=1.70$) [$t(62)=-8.749$, $p=.000$].

Table 1: Sample characteristics

		Adult patient (N=22)		Partner (N=22)		Adolescent patient (N=10)		Parent (N=10)		F/ χ^2
Mean (SD)		M	SD	M	SD	M	SD	M	SD	
Age		44.27 ^a	12.56	44.64 ^b	12.17	25.30 ^{abc}	6.50	53.30 ^c	8.04	11.61 ^{***}
Years of education after primary school		5.95	3.34	7.45	2.24	6.60	3.31	6.00	3.50	1.04
Income in Euros		2791.95 ^{†a}	834.31	2791.95 ^{†b}	834.31	1306.00 ^{ab}	490.36	2092.20	1107.21	6.63 ^{***}
AUDIT score		16.27 ^{ab}	7.94	2.09 ^{ac}	1.38	12.20 ^{cd}	7.74	3.00 ^{bd}	2.21	27.44 ^{***}
Percentages										
Gender	- Male	77.3 ^{ab}		22.7 ^{ac}		70.0 ^c		20.0 ^b		18.25 ^{***}
Ethnicity	- European	95.5		100.0		100.0		100.0		1.94
	- Caucasian									
Education	- None or lower	19.0		4.5		10.0		20.0		9.77
	- Secondary	57.1		63.7		80.0		30.0		
	- Higher	23.9		31.8		10.0		50.0		
Earnings	- Fulltime employment	71.4		36.4		50.0		40.0		9.31
	- Part-time employment	14.3		54.5		40.0		40.0		
	- Unemployed/ other	14.3		9.1		10.0		20.0		
Primary addiction	- Alcohol	86.4		-		30.0		-		8.18 ^{**}
	- Drugs	13.6		-		70.0		-		
Time spent with	- Partner	85.7 ^a		68.2 ^b		10.0 ^{abc}		60.0 ^c		79.56 ^{***}
	- Family member	9.5		18.1		20.0		20.0		
	- Friend	4.8 ^a		9.1 ^b		60.0 ^{abc}		20.0 ^c		
	- Alone	0.0		4.6		10.0		0.0		

† Mean (jointly) monthly income.

* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Bonferroni *post hoc* test were employed for multiple comparisons and significant differences ($p \leq 0.05$) are indicated with superscripts. Matching superscripts indicate a statistically significant difference

Instruments

Maudsley Addiction Profile (MAP)

The Maudsley Addiction Profile (Marsden, Gossop, Edwards, Best, Stewart & Lehmann, 1998) is a questionnaire that consists of four main domains: (a) substance use, (b) health risk behavior, (c) health symptoms and (d) personal/social functioning. In the present study the Dutch version (Roozen, Rombout, Elsenaar & Nuijten, 2007) of the MAP-health symptoms section was used. This section assessed the frequency of physical and psychological symptoms on a 5-point Likert scale in the past 30 days. The MAP has good test-retest reliability, concurrent and face validity (Marsden et al., 1998). The health symptoms section, with physical and psychological health subscales, had good internal reliability in the present study (Cronbachs' $\alpha=.86$ and $\alpha=.92$, respectively).

Relationship Happiness Scale

An expanded version of the Relationship Happiness Scale rates relationship satisfaction in 15 life domains with Likert-scales was used (Azrin, Naster & Jones, 1973; Sisson & Azrin, 1986; Meyers & Smith, 1995). In the present study the instrument was adapted for use with spousal (see for example the items of Table 2) as well as non-spousal relationships. The Cronbachs' alpha of all 15 items was .90 for patients and .91 for family members. All scales seem medium - highly correlated to the overall happiness, ranging from .31 (work/education) to .80 (indoor social activities).

The concept of problem minimization/maximization was measured by creating dissimilarity scores (consistent with Bamford, Barrowclough & Booth, 2007; and Heijmans, De Ridder & Bensing, 1998). A continuous variable was calculated by the scores from the concerned significant others minus patients' scores on all individual items of a subscale. The greater the positive dissimilarity score the higher the patients scored on the subscale compared to their

concerned significant others, whereas a negative score indicated that the significant other provided higher ratings than the patient.

EuroQol-5D (EQ-5D)

The EuroQol-5D (Brooks, 1996; The EuroQol Group, 1990) is a standardized questionnaire used to describe and rate the health-related quality of life. The self-rated EQ-5D descriptive system is comprised of five items relating to problems in the following dimensions: Mobility, Self-care, Usual activities, Pain/discomfort and Anxiety/depression. In the present study, the scores on these dimensions were transformed into EQutil scores, reflecting the health-related quality of life. In the second part of the questionnaire participants are asked to indicate their current health state on a visual analogue scale (EQVAS) ranging from 0 to 100. In this scale, 0 indicates the worst imaginable health status and 100 represents the best imaginable health status. The EuroQol-5D has a good reported internal reliability (Cronbachs' alpha=.70 - .86) and good construct validity (Cheung, Oemar, Oppe & Rabin; 2009), but in this study the alpha was .60.

Dyadic Adjustment Scale (DAS)

The Dyadic Adjustment Scale (Spanier, 1989) is a 32-item rating instrument that measures the quality of adjustment to marriage and similar dyadic relationships on a 6-point Likert scale. This instrument was only employed for the adult (romantic) dyads. The instrument includes four subscales: Dyadic consensus, Dyadic satisfaction, Affectional expression and Dyadic cohesion. The total adjustment score is based on the sum of the scores of the individual subscales. A higher score on each (sub)scale indicates a higher dyadic adjustment and a better relationship quality. The total scores can be transformed into T-scores with a mean of 50 and a standard deviation of 10, which allows easier interpretation of scores

across the subscales as well as comparisons between patients and family members on their perceptions of relationship quality. Good criterion- and construct validity was found (Busby, Christensen, Crane & Larson, 1995). In the present study the DAS had good internal consistency ($\alpha = .86-.87$), although the alpha for the Affectional expression subscale was low (.56).

14-item version of the Dedication Scale

The 14-item version of the Dedication Scale is derived from the Commitment Inventory (CI), developed by Stanley and Markman (1992) and was used to measure interpersonal commitment. Dedication refers to the desire of an individual to maintain or improve the quality of his or her relationship for the joint benefit of the participants. This instrument also was administered only to the adult (romantic) dyads. Each item was rated on a 1 (strongly disagree) to 7 (strongly agree) scale, with higher scores indicating more interpersonal commitment. Satisfying construct and concurrent validity were found (Stanley & Markman, 1992). In the present study the 14-item Commitment Inventory had good reliability ($\alpha = .78$).

Procedure

After patients and CSOs gave their consent, they were interviewed by a BSc level independent researcher (P.H.) in order to obtain information. The Alcohol Use Disorder Identification Test (AUDIT), developed by World Health Organisation (Babor, Higgins-Biddle, Saunders & Monteiro, 2001) and the substance use section of the Maudsley Addiction Profile (Marsden et al., 1998) were used to obtain detailed information on patients' substance use in the past 30 days. Furthermore, each participant was interviewed about how many family members were facing the consequences of the participant's addiction, on what domain, and to what extent. In

addition, four different paper-and-pencil versions of questionnaires (see section instruments) were separately handed out (a. adult patients, b. partners, c. adolescent patients, and d. (grand) parent version).

All items of the Dyadic Adjustment Scale and Commitment Inventory (see instruments) were independently translated into Dutch (P.H.) based on the strategy recommended by Hunt, Alonso, Bucquet, Niero, Wiklund & McKenna (1991). This procedure was followed in conjunction with an external translator, who subsequently translated both instruments back into English. These versions were compared. Disagreements concerning the translation of the items were resolved by consensus.

Analyses

Comparisons for continuous variables regarding socio-demographic data were calculated by means of independent t-tests. Comparisons between patients and CSOs were analyzed by means of paired samples t-tests. χ^2 -statistics were used to test differences in categorical data. Pearson product-moment correlations were applied to examine the strengths of the associations between measures. Because of the exploratory nature of the present study, all *p*-values were 2-sided and considered significant at $p < 0.05$. Analyses were performed with the Statistical Package for Social Sciences (SPSS version 15.0, 2004, SPSS Inc., Chicago, Illinois).

Results

Impact of patients' addiction-related problems on family members (hypothesis 2)

CSOs reported a higher number ($M=4.1$; $SD=2.82$) of other proximal significant others that had been affected by patients' alcohol and/or drug related problems than estimated by the patients themselves ($M=2.8$; $SD=1.93$) [$t(28)=-2.82$, $p=.009$]. This was not the case for distal

significant others (friends, acquaintances, colleagues, neighbors), although patients ($M=2.6$; $SD=3.48$) still scored lower than the CSOs ($M=3.3$; $SD=3.08$).

On a 10-point visual analogue scale (ranging from “not at all” to “very much”), indicating the impact of addictive behaviors on other proximal significant others, patients reported a mean score of 6.6 ($SD=2.73$). When compared to CSOs ($M=7.3$; $SD=2.49$), no statistically significant difference was found. The impact on more distal significant others was statistically significant [$t(26) = -3.24, p=.003$], whereas CSOs ($M=5.6, SD=3.12$) reported higher severity levels than patients ($M=3.6$; $SD=3.05$).

Patients vs. CSO's (hypothesis 1)

-Quality of relationships

In general, the collapsed patient group reported higher scores than their CSOs on the Relation Happiness Scale. This was confirmed by the dissimilarity scores, which were all positive. Statistically significant differences were found on outdoor social activities [$t(24)=2.88, p=.008$], joint pleasant activities [$t(27)=2.49, p=.019$], money management [$t(28)=3.08, p=.005$], work/education [$t(25)=2.33, p=.028$] and emotional support [$t(27)=2.48, p=.020$].

Interestingly, regarding the disparity between patients and the CSOs, some medium correlations were found between the number of years of substance using and patients score on the Relation Happiness domains: joint pleasant activities ($r=.42, p=.025$) and affection ($r=.37, p=.042$). In contrast, no meaningful correlations were observed between years of substance use and for CSO Relation Happiness scores.

When looking at the specific relationship of adolescent patients and their parents, it was found that there was no significant difference regarding the Relation Happiness scores between adolescent patients and their parents, although parents scored generally lower than

the adolescents, as reflected by the dissimilarity scores ranging from -1.25 (affection) to 1.86 (emotional support).

In the case of adult patients and their partners, it turned out that adult patients scored statistically significant higher on the Relation Happiness Scale than their partners on upbringing of children, activities with children and affection to children (Table 2). Pertaining to the dissimilarity scores, it was found that the patient-partner couples ranged from 0.05 to 1.76, highlighting the disparity. A predefined threshold of <6 is used to distinguish satisfaction/dissatisfaction. Table 2 shows that patients reported only on sexual relationship lower than a six, indicating dissatisfaction. Conversely, their partners reported on six domains that fulfilled this criterion: social activities outdoor, joint pleasant activities, social activities at home, communication, sexual relationship and emotional support.

Adult patients ($M=75.77$; $SD=10.80$) were also compared with their partners ($M=75.41$, $SD=10.83$) on the total score of the 14-item Dedication Scale. No statistically significant differences were found.

After the raw scores of the Dyadic Adjustment Scale were converted into T-scores (Spanier, 1989), partners ($M=40.32$, $SD=9.53$) scored statistically significant lower on Dyadic Satisfaction than adult patients ($M=47.14$, $SD=6.75$) [$t(21)=3.78$, $p=.001$]. Furthermore, partners ($M=40.50$, $SD=8.86$) scored significantly lower on Total DAS score than adult patients ($M=45.32$, $SD=8.68$) [$t(21)=2.50$, $p=.021$], indicating a lower quality of dyadic adjustment for partners.

Pertaining to the DAS norm group (based on a group of 218 married individuals), it was shown that adult patients scored statistically significant lower on Dyadic Consensus, Affectional Expression and on the Total DAS-score than normal controls (Table 3). Partners scored significantly lower on subscales Dyadic Consensus, Dyadic Satisfaction, Affectional

Expression and overall DAS-score than controls. In general, compared to normal couples, the quality of adjustment to marriage was lower for both adult patients and their partners.

Table 2. Comparison of adult patients and their partners

Relation Happiness Scale		Adult patients (N=22)		Partners (N=22)		Dissimilar-ity score	t-value
		M	SD	M	SD		
1.	Household responsibilities	7.75	1.62	6.95	1.67	0.80	1.65
2.	Upbringing of children	8.08	1.50	6.69	1.70	1.39	3.01*
3.	Social activities at home	6.68	1.60	5.95	1.87	0.73	1.33
4.	Social activities outdoor	6.68	2.11	5.47	2.04	1.21	2.07
5.	Joint pleasant activities	7.00	1.86	5.80	2.14	1.20	3.09**
6.	Activities with children	7.73	1.49	6.47	1.92	1.26	2.87*
7.	Money management	8.05	2.09	6.29	2.24	1.76	3.48**
8.	Communication	6.38	1.94	5.38	2.46	1.00	1.46
9.	Affection	7.76	1.51	6.90	2.36	0.86	1.69
10.	Affection to children	8.63	1.15	7.38	1.82	1.25	2.83*
11.	Sexual relationship	5.65	2.58	5.60	2.89	0.05	0.11
12.	Job/school	7.58	1.22	6.37	1.95	1.21	2.25*
13.	Emotional support	6.86	2.22	5.57	2.46	1.29	1.94
14.	Independence of partner	7.00	2.15	6.14	2.31	0.96	1.49
15.	Overall happiness	7.43	1.69	6.52	1.69	0.91	1.75

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Patients' and Partners' T-scores compared with normal controls

		M	SD	t-value
Adult	Dyadic Consensus	44.73	9.45	-2.62*
patients	Dyadic Satisfaction	47.14	6.75	-1.99
(N=22)	Affectional Expression	39.86	8.73	-5.45***
	Dyadic Cohesion	52.09	10.46	0.94
	Total DAS-score	45.32	8.68	-2.53*
Partners	Dyadic Consensus	41.77	9.67	-3.99**
(N=22)	Dyadic Satisfaction	40.32	9.53	-4.77***
	Affectional Expression	40.41	10.15	-4.43***
	Dyadic Cohesion	49.05	8.83	-0.51
	Total DAS-score	40.50	8.86	-5.03***

* $p < .05$, ** $p < .01$, *** $p < .001$

-Psychological and physical symptoms

In general, the collapsed patient group reported comparable scores to their concerned significant others in terms of MAP-health symptoms. No statistically significant findings were found. Regarding the combined physical and psychological scores, no differences were found between adult patients ($M=20.76$; $SD=13.55$) and their partners ($M=23.14$; $SD=13.50$). Roughly similar findings were found for adolescent patients ($M=23.33$; $SD=9.67$) and the parents ($M=21.33$; $SD=10.64$). Again, there were no differences with respect to the separate measurement of physical and psychological distress.

-Health-related quality of life

The collapsed patient group ($M=.83$; $SD=.15$) reported no statistically significant differences on EQutil scores than their CSOs ($M=.78$; $SD=.19$). There also were no significant differences on the EQVAS between patients ($M=70.17$; $SD=12.49$) and their CSOs ($M=71.83$; $SD=11.90$). More specifically, no significant differences were found between adult

patients and their partners and between adolescent patients and their parents regarding EQutil and EQVAS scores.

Partners vs. parents (hypothesis 3)

When partners and parents were compared on Relationship Happiness Scale, a statistically significant difference [$t(27)=2.63, p=.014$] emerged. Parents ($M=3.86, SD=2.27$) reported significantly lower scores on the domain of money management than partners ($M=6.29, SD=2.24$).

No significant differences were found between partners and parents regarding MAP health scores. In addition, there were no differences with respect to the separate measurement of physical and psychological distress.

Finally, it turned out that partners and parents did not differ significantly on health-related quality of life.

Discussion

The objective of the present study was to examine problems that addicted patients and their CSOs experience in terms of quality of relations, psychological problems, physical distress and quality of life. In addition, comparisons were made on two types of relationships: 1) adult patients and partners, and 2) adolescent patients and parents. The results indicate that CSOs reported that four other family members or friends were directly affected by patients' addiction related problems, but patients reported less than three affected significant others. These findings support hypothesis 2 and are consistent with past research that shows that for every drug or alcohol abusing individual, approximately five individuals suffer its consequences directly (Daley & Raskin, 1991; Paolino & McCrady, 1977). The present findings also demonstrate that there is an apparent disparity between the views of patients and CSOs on this topic.

It was anticipated that CSOs report higher levels of physical and psychological distress and lower levels of happiness and quality of life scores than patients (hypothesis 1). This hypothesis was partly confirmed in that the collapsed patient group reported significant higher happiness scores on several life areas than CSOs, such as financial, outdoor social activities, joint pleasant activities and emotional support. In general, the dissimilarity scores indicated that CSOs were more dissatisfied than the patients. From the perspective of CSOs, this finding provides evidence for the construct of ‘problem maximization’ (Heijmans, De Ridder & Bensing, 1998; Thompson & Pitts, 1992), because CSOs perceived the consequences of addictive behaviors to be more severe than did the patients. These diverging views between patients and CSOs may reflect the spouses concern about the patients’ coping strategies that are employed to manage the substance using problem. This may lead to mutual misunderstanding and can cause a great source of distress (cf. Heijmans, De Ridder & Bensing, 1998). It is suggested that both patients and CSOs could be helped to have a more accurate appraisal of the impact of their addiction on the families and, subsequently, to decrease the disparity and associated distress.

In addition, partners reported lower scores on quality of dyadic relationships. They scored significantly lower on relationship satisfaction and overall dyadic adjustment than adult patients. When compared to the DAS norm group it was shown that the quality of adjustment to the intimate relationship is lower for both adult patients and their partners. DAS scores of this study are comparable to scores of couples in which one spouse is chronically ill (Badr & Acitelli, 2005) or is having a heart transplant (Konstam, Surman, Hizzazi, Fierstein, Konstam, Turbett, Dec, Keck, Mudge, Flavell, McCormack & Hurley, 1998). These findings suggest that substance abuse may affect families in ways similar to the impact of other chronic illnesses.

Although no differences between partners and adult patients were found regarding commitment, our results are considerably lower than the findings of Kline, Stanley, Markman, Olmos-Gallo, St. Peters, Whitton and Prado (2004), suggesting lower commitment than cohabiting 'healthy' couples.

However, patients and their CSOs reported roughly comparable levels of physical and psychological distress. These scores approached those scores obtained by opiate addicts (Collins, Boggs, Taggart, Kelly, Drillington, Swanton & Patterson, 2009). The elevated distress level of CSOs has been previously reported by Moos, Finney and Gamble (1982).

When comparing the EQutil and EQVAS scores with those found in other recent studies it appears that the findings are somewhat higher than those of people with a chronic illness (Burström, Johannesson & Diderichsen, 2001), but the EQutil-scores of partners and adolescent patients fall within the same range as those of actively heroin using addicts and stable abstinent heroin addicts. The findings of EQVAS revealed similar results (De Jong, Roozen, van Rossum, Krabbe & Kerkhof, 2007). It appears that the EQ-5D scores of significant others, measuring the health related life quality, fall within the same range as those of heroin addicts following treatment.

At last, consistent with Velleman et al. (1993), no major differences were found between partners and parents. Hypothesis 3 was partly confirmed in that parents report more problems regarding the overall Relation Happiness Scores between the two types of relationships. There was a tendency for partners to report higher scores than parents, indicating more dissatisfaction among parents. This observation is in contrast with the findings by Hudson et al. (2002) and might be explained by differences in the inclusion criteria of CSOs. Unlike this study, Hudson et al. (2002) also included parent – adolescent patient couples which were not cohabiting. This may lead to a different perception of the consequences of the substance abuse and might imply

other responsibilities. However, no differences were found between partners and parents on levels of physical/psychological distress and health related quality of life.

Consistent with former research, above findings indicate that the daily life of CSOs is marginalized to the same extent as the daily life of patients. CSOs experience physical and psychological distress, are dissatisfied with their quality of life and, in case of adult patients and their partners, are less content with their intimate relationship.

Clinical implications

These findings have implications. For those substance abusing individuals who do eventually seek treatment, records show that this typically occurs 6 to 10 years after the initiation of drug use (Joe, Simpson & Broome, 1999). This time lag is particularly disconcerting. There is an increasing awareness that CSOs are capable of encouraging patients to seek help for their substance using problems and to remain involved with treatment services (Meyers, Roozen & Smith, in press; Meyers & Smith, 1997; Sisson & Azrin, 1986). When this happens at earlier stages of patients' substance dependence, the outcomes are generally more favorable (McLellan, Luborsky, Woody & O'Brien, 1983; Scott, Dennis & Foss, 2005).

It is well known that CSOs can alter their own behavior and thereby encourage persons with addiction problems entering treatment (Copello & Orford, 2002; McCrady, 2004). In a study by De Civita, Dobkin & Robertson (2000) personal and structural barriers to the engagement of CSOs in an outpatient addiction treatment program were identified. Providing educational and therapeutic support to CSOs were endorsed as important elements in maintaining their involvement. But, the sequelae of addiction often result in depleted emotional, social and financial resources, making it increasingly difficult for CSOs to stay engaged in the treatment process. A new development is the employment of the Community

Reinforcement and Family Training (CRAFT) approach (Meyers, Roozen & Smith, in press; Sisson & Azrin, 1986; Smith & Meyers, 2004). Specific goals include the reduction of emotional and physical complaints, the use of positive and negative reinforcement, increasing life satisfaction and improvement of the relationship between the patient and the CSO (Meyers & Smith, 1997).

Unfortunately, up to now, helping CSOs of substance abusers has often focused on involving them into treatment as an adjunctive therapeutic strategy. Consequently, only minimal or even no attention is paid to the needs and complaints of these CSOs. The study of Van der Poel, Van Vliet and Stoele (2008) highlights that none of the investigated main Dutch addiction treatment institutions had a clear policy towards actively helping CSOs, besides the availability of psycho-education and self-help referral.

Limitations

The present study has several limitations. First, the sample size of the present study was relatively small and subsequently skewed by the distribution of participants, with twice as many adult (n=22) as adolescent patients (n=10). Because of this limitation no multivariate tests were conducted but instead t-tests were employed. By conducting these multiple t-tests the risk of an inflated alpha was increased.

Second, a subset of a patients was recruited from a Dutch out-patient treatment facility. The findings may not generalize to patients with other cultural backgrounds or other diagnostic populations, such as inpatient substance abusers or dually diagnosed patients and their significant others.

Third, groups appear to differ on some independent variables (age, gender, AUDIT-score and income). No covariate analysis could be conducted due to the nature of the (paired) data. The measured differences on age and AUDIT-score were inherent to the inclusion

criteria of the groups and therefore were not suitable as a covariate. Future research aimed at these group differences may clarify this issue. In addition, the question referring to family income was completed only by approximately two-third of the participants and was therefore not representative for the entire sample. At last, it turned out that the gender distribution among groups was disproportional. Patients tended to be mostly male, while concerned significant others were mostly female. This is consistent with recent Dutch prevalence research (Landelijk Alcohol en Drugs Informatie Systeem, 2009). Prior research in the US has shown that females typically have lower Relationship Happiness scores compared to males (McCrary, 2009). A similar tendency was obtained in the present study, although these differences were only statistically significant for social activities outdoors and emotional support. No other gender differences were observed regarding socio-demographic data, physical and psychological distress, quality of life scores and commitment in their relationships.

Finally, some of the reported Cronbachs' alphas were relatively low and therefore may hold responsible for affecting the reliability of the employed measurements. Nevertheless, it can hardly be considered problematic, whereas several other measures with acceptable Cronbachs' alphas yielding globally comparable results.

Conclusion

Although there are several limitations hampering the present results, this study confirms that the relationships of patients and CSOs are disrupted (Hudson et al., 2002; Velleman et al., 1993). In addition, multiple domains, including the quality of life of CSOs, is profoundly affected by living together with a substance using individuals. Overall, it appears that CSOs evaluate the consequences of patients' addictive behaviors as more often negative and as more severe than the patients themselves. Future studies may focus on causal relationships between

addiction related variables and quality of relationship, psychological and physical symptoms, and health-related quality of life. Also, more homogeneous groups should be used to clarify the group differences on gender and age. More research is needed to confirm the present findings.

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