VERSITA
EMERGING SCIENCE PUBLISHERS

NAD

Research report

Client characteristics and therapist style: a combined analysis of impact on retention and effectiveness in outpatient substance abuse treatment

VESA KNUUTTILA & KATJA KUUSISTO & PEKKA SAARNIO

ABSTRACT

AIMS – To explore the effects of client and therapist characteristics along with percentage of days abstinent before admission on retention and effectiveness of outpatient substance abuse treatment. DESIGN – The study was implemented with naturalistic principles and prospective design. The clients (N = 327) and the therapists (N = 33) were recruited from Finnish outpatient treatment units (N = 7). RESULTS – The client's low readiness to change, the therapist's low directiveness and low empathy predicted short duration of treatment. Client's past substance use frequency was likewise a significant predictor of retention in treatment; clients with low percentage of days abstinent at baseline dropped out much more easily. The client's high anger and low percentage of days abstinent at baseline was found to predict low percentage of days abstinent at follow-up. Greater satisfaction with support from therapist was predicted by client's high readiness to change and lower substance use frequency at baseline. CONCLUSIONS – Retention in treatment was predicted by both client's and therapist's characteristics, while effectiveness in outpatient substance abuse treatment was more dependent on client's characteristics and earlier substance use.

KEYWORDS – Substance abuse treatment, treatment retention, effectiveness, client characteristics, therapist style.

Submitted Initial 17.06.2010 Review completed 14.10.2010 Final version accepted 20.01.2011

Introduction

As early as 1936, Saul Rosenzweig (1936/2002, 6) presented the hypothesis that the effectiveness factors of different forms of therapy are the same. Rosenzweig asked: "If they are only apparently diverse, what do these therapies actually have in

Acknowledgements

This research was supported by a grant from the Academy of Finland's Research Programme on Substance Use and Addictions 2007–2010 to the Research Group headed by Professor Pekka Saarnio on Effectiveness of Substance Abuse Treatment in Light of Common Factors, University of Tampere, Finland (grant 118327).

The authors wish to thank Kari Tolonen for assistance in coding the data.

common that makes them equally successful?" Subsequently, this claim has received a great deal of support from research (Imel et al. 2008; Luborsky et al. 2002; Wampold 2001), and currently a theory of common factors is spoken of which states that the effect of common factors on therapy outcomes is much greater than the effect of treatment methods. In meta-analytic studies the proportion of the impact of therapy techniques has only been assessed at 8 per cent (Wampold 2001). Nevertheless, there has been less research into common factors than into therapy techniques, especially within the field of substance abuse treatment than within psychotherapy (Bergmark 2008a; Imel et al. 2008; Orford et al. 2006). Substance abuse research combining common factors with the client characteristics has been even rarer. The purpose of the present study was to construct a design of this kind.

When studying client characteristics, readiness to change and anger have been found to be significant factors in the outcome of substance abuse treatment. The client's readiness to change has been studied mainly with the Transtheoretical Model of Change (TTM) (DiClemente & Prochaska 1998; Prochaska & DiClemente 1982; 1984). The roots of the model are in psychotherapy research (Prochaska 1979). Subsequently, the model has been widely used in research into substance abuse treatment (Connors et al. 2001; DiClemente et al. 2004) and health sciences (e.g., Bridle et al. 2005; Bowen & Trotter 1995; Prochaska & Velicer 1997).

The model describes the change in client behaviour heuristically (DiClemente et al. 2004). According to TTM, change takes place at several stages, regardless of the form of therapy (Prochaska 2005) or even outside the treatment (Prochaska et al. 1992; Prochaska & Norcross 2007). The use of the term "transtheoretical" is based on the fact that the model includes elements from several therapy approaches (DiClemente 2005; DiClemente & Prochaska 1998; Prochaska et al. 1992).

The term "transtheoretical" also includes the idea that the model may be used in many therapy approaches (Prochaska & DiClemente 1984; Prochaska et al. 1988); in other words, TTM is not confined to any given school of therapy. One of the elements in the model is the client's readiness to change, which was one of the best predictors for future drinking behaviour of outpatient clients in Project MATCH (Project MATCH Research Group 1998a). The effect could be seen at both one-year and three-year follow-up.

Anger is a mainly negative emotional state that varies in intensity, from mild irritation or annoyance to rage, and is associated with a heightened level of activation and an activation of the autonomous nervous system (Spielberger 1999). Spielberger understands trait as a more permanent characteristic compared to state, which is more dynamic in nature. Anger is a very general phenomenon among those seeking substance abuse treatments (Deffenbacher et al. 1996; Kadden et al. 2003), and has been found to predict poor treatment outcome (Waldron et al. 2001). This imploses particular demands on the therapist, since anger easily undermines the client's compliance in therapy and thus prevents the creation of a favorable working alliance (Kadden et al. 2003).

According to the results of Project MATCH, client's high anger predicted bet-

ter outcome in the Motivational Enhancement Therapy (MET) than in the Twelve-Step Facilitation Therapy (TSF) or Cognitive-Behavioural Therapy (CBT), both at one-year and three-year follow-up (Project MATCH Research Group 1998a).

Along with client characteristics, client's prior substance use has often been used as a covariate due to its predictive value in future substance use. Substance use before entering treatment has been found to explain future consumption in several studies (Adamson et al. 2009).

When studying the therapist's characteristics it has been found that empathy and attitude towards excessive directiveness are important factors. The therapist's empathy, or capacity to enter into the feelings of another, has long been a focus of interest in research on therapists (Hojat 2007). On a general level, empathy is defined as follows: "The capacity to understand and enter into another person's feelings and emotions or to experience something from the other person's point of view." (Colman 2006). The cognitive orientation has a greater role in empathy than in sympathy, which is largely based on immediate emotions.

The therapist's attitude towards the client, including the matter of empathy, has been shown to play an important role in psychotherapy (Beutler et al. 2004; Bohart et al. 2002). The therapist's empathetic attitude towards the client has also proved an essential factor in substance abuse treatment (Najavits et al. 2000). It is important for the working alliance and hence also for retention in treatment (Nielsen et al. 2000). In addition, an empathetic attitude towards the client predicts a good treatment outcome (Miller et al. 1993; Miller et al. 1980).

Currently, motivational interviewing (MI) is one of the most widely researched methods in substance abuse treatment (Miller & Rollnick 2009). According to meta-analytical studies it is an effective method for treating substance use disorders (Burke et al. 2003; Burke et al. 2004; Dunn et al. 2001). The method has proved particularly effective in the initial stages of treatment, in committing the client to the treatment. The outcomes of Project MATCH, in turn, have shown that MI is effective for treating non-compliant and angry clients, although significant differences in efficacy have been noted among therapists who use it (Project MATCH Research Group 1998b).

In the spirit of MI, emphasis is placed on a positive attitude towards the client, especially empathy (Miller & Moyers 2006). According to the findings reported by Moyers, Miller and Hendrickson (2005) the therapist's interpersonal functioning was more significant in outcome than were the technical components of MI.

The therapist's directiveness and the client's reaction towards it have been observed in relation to the outcomes of substance abuse treatment (Karno & Longabaugh 2004; 2005; 2007). This means that directiveness should be adjusted according to the client's attitude; therapists should avoid being directive with easily provoked clients. The same phenomenon has been observed in psychotherapy (Beutler et al. 2004).

The impact of the five factors discussed above (client's readiness to change, anger and percentage of days abstinent at baseline, and the therapist's empathy and attitude to excessive directiveness) has not so far been studied within one and the same

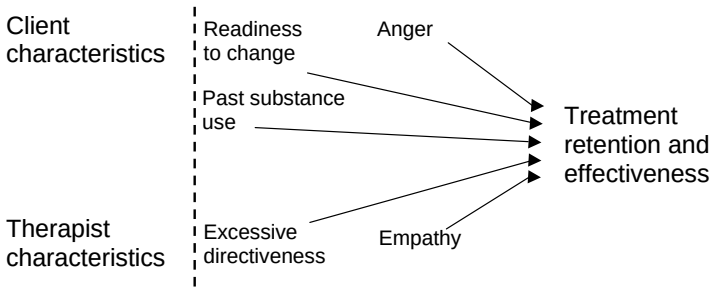

Figure 1. An analytical map of the study.

study. Figure 1 describes heuristically the relation of the independent variables to treatment retention and effectiveness.

The aim of the study was to ascertain how client's readiness to change (REA), anger (ANG) and percentage of days abstinent at baseline (PDA_B) and therapist's empathy (EMP) and attitude to directiveness (DIR) predict retention in treatment (RET), the client's percentage of days abstinent (PDA_F) and satisfaction with the therapist (SAT_F) at follow-up six months after the beginning of treatment.

Method

Design and implementation

The project was implemented as a multisite study including outpatient substance abuse treatment units called A-clinics (N = 7) in southern and western Finland. The clinics were selected on geographic and demographic grounds. The planned project was presented to clinic directors in a meeting in the spring of 2007, and the clinics were then invited to participate. All the clinics approached in this manner opted for participation. Their personnel were given instructions about the procedure in the autumn of the same year.

Figure 2 presents the stages of the study and the numbers of clients during each stage. The clients entered treatment in January–June 2008. The duration of follow-up was six months, so that it was completed by the end of December 2008. The six-month follow-up was justified on the basis of earlier findings showing that relapsing into substance abuse is most usual during that period (Kirshenbaum et al. 2009). The follow-up visit was the only stage of the procedure with a precisely specified time-point. The times of the therapy sessions were arranged according to the unit's usual procedures. All clients were receiving individual treatment. The median number of clients per clinic was 34 (min = 22; max = 89). According to a contract made, no outcome comparisons between the clinics were performed.

The client's participation began at the first visit to the clinic reception. After having read a brochure describing the study, the clients would give their consent to participate, fill in the baseline data form and receive an appointment with a therapist according to the computerized randomization list. The client was also informed about issues related to ethical principles.

The study included a maximum of five

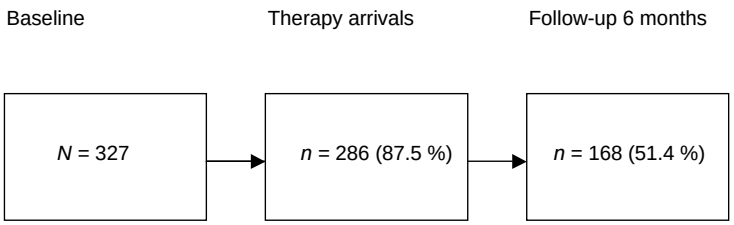

Figure 2. Progress of the study.

sessions per client. At the end of the fifth session at the latest, the therapist recorded a code for retention in treatment. The treatment period could continue after this, but sessions subsequent to this were not included in the study.

All clients who had completed the baseline data form were invited by letter to a follow-up visit at the clinic at six months after treatment had begun. Those attending this visit filled in a follow-up data form.

The following general principles were used in designing and implementing the study:

a) Naturalistic approach. The study was implemented as part of normal activity at the clinic. Apart from the randomization and the completion of forms, it did not interfere with the progress of treatment.
b) Non-selection of clients. Every person who started a new treatment period due to substance abuse disorders was accepted as a subject, provided they gave their consent.
e) Selection of materials. The forms used had proven useful in earlier studies or were appropriately derived from such forms. The aim was also to use instruments that would create as little burden as possible. This was done in order to minimize the impact of the study on treatment outcome.
d) Randomization. The clients were assigned to therapists according to a randomization list drawn up in advance.
e) Prospective follow-up study. The clients were followed up for six months after the start of treatment.

Participants

Those participating in the study were clients beginning a new treatment period and their therapists. Therapist data was connected to client data so that every client had some variables from their personal therapist data. The clients had contacted the treatment unit on the basis of where they lived. Both urban and more sparsely populated areas were included.

Tables 1 and 2 present demographic data on the clients and data on their substance abuse. Their education level was quite low, while their rate of unemployment was fairly high. Overall, the demographic data for the study participants corresponded well with outpatient clients described in other Finnish studies (Saarnio 2002).

Alcohol was the primary substance abused, accompanied by a tendency towards the abuse of only one substance. As supplements to alcohol, the most impor-

Table 1. Background information on subjects (N = 327)

	n	%
Age (years)		
–30	57	17.4
31–40	71	21.7
41–50	102	31.2
51–	97	29.7
Sex		
Male	216	66.1
Female	111	33.9
Marital status		
Single	102	31.2
Cohabiting	50	15.3
Married	66	20.2
Divorced	103	31.5
Widowed	6	1.8
Basic Education		
Less than Comprehensive school	87	26.6
Comprehensive school	163	49.8
High School	77	23.5
Employment status		
Employed	139	42.5
Not employed	188	57.5
Housing		
Owner-occupier	100	30.6
Tenant	192	58.7
Homeless	35	10.7

tant substances used were tranquilizers, cannabis and amphetamine. This group was followed by the more recent arrival buprenorphine.

The nature of the clients' substance abuse disorders is described by the fact that only one fifth of them limited their substance abuse to weekends, though it is true that the proportion of such clients is even smaller in inpatient treatment (Saarnio & Knuuttila 2007). On the other hand, it could also be seen that the clients controlled their substance use: about one fifth (19%) of the clients had abstained completely for the month preceding the start of treatment. Earlier research has also pointed out that a decrease of substance abuse occurs even before treatment is started (Bergmark 2008b).

Attrition was analyzed in three ways. At first, the baseline variables were compared between clients who started therapy and clients who failed to attend. Secondly, those who participated in only the first therapy session were compared to those who participated in both first and third sessions. Thirdly, the same variables were used to compare those who participated in follow-up and those who did not. Possible differences were also examined by controlling for background variables selected on theoretical grounds. These included age, gender, previous contact with the treatment unit, for example, as well as client's objective regarding further substance use.

Clients attending for therapy (n = 286) and clients who did not (n = 41) differed from each other regarding expectations of treatment effectiveness (t_{325} = 2.5; p = .01). Positive expectations of effectiveness improved the likelihood of attending for treatment.

In analyzing attrition between clients attending only the first therapy session (n = 286) and those attending both the first and third therapy sessions (n = 164) the differences were characterized by type of housing, χ^2_2 = 5.8; p = .05 and the attitude towards AA/NA, χ^2_2 = 9.4; p < .01. Controlling for sex and age revealed an effect of housing (p = .02) only in women and the attitude towards AA/NA (p < .01) only in men (p = .03) aged 41–50. Those living in rented apartments dropped out more easily than owner-occupiers. Also, the more negative the attitude towards twelve-step participation and principles the greater the drop-out.

Table 2. Data on the substance use of the subjects (N = 327)

	n	%
Substance used*		
Alcohol	315	97.5
Tranquilizers	60	18.6
Cannabis	44	13.6
Amphetamine	37	11.5
Buprenorphine	20	6.2
Opiates	8	2.5
Cocaine	8	2.5
LSD	5	1.5
Substitute alcohol	4	1.2
Solvents	2	0.6
Other	5	1.5
Type of drug use*		
Single drug use	236	73.3
Poly-substance use	86	26.7
Habit of using substance*		
Daily	125	39.3
Periodically	127	39.9
At weekends	66	20.8
Duration of prolonged abstinence period (days)*		
0–7	57	17.4
8–30	119	36.4
31–	151	46.2
Abstinent days during past 30 days		
0–7	68	20.8
8–14	54	16.5
15–22	84	25.7
23–	121	37.0
Contacts with problem users*		
Daily or almost daily	47	14.4
Weekly	83	25.4
Monthly	53	16.2
Less frequently	47	14.4
No contacts	97	29.7
Attitudes towards AA/NA		
Very positive	61	18.7
Positive	124	37.9
Neutral	115	35.2
Negative	18	5.5
Very negative	9	2.8
Prior admission at this clinic		
Yes	148	45.5
No	177	54.5
Voluntary admission		
Yes	241	73.9
No	85	26.1
Client's objective		
Abstinence	131	40.7
Controlled use	191	59.3

Note. * For the year prior to treatment

As for those clients who participated in the follow-up (n = 168) and those who did not (n = 159), there were significant differences in the following variables: age (t_{325} = 3.5; p < .01), housing (χ^2_2 = 15.4; p < .01), type of drug abuse (χ^2_1 = 7.0; p < .01) and anger (t_{325} = -2.8; p < .01). Those who participated in the follow-up were about four years older than those who did not. The former were more often owner-occupiers than tenants, and they included a significantly smaller proportion of homeless people than the latter. Poly-substance use increased failure to attend follow-up. The clients who did not participate in follow-up also had a higher level of anger than the others. However, controlling for age showed that these differences were to a great extent explained by age. Younger clients had a poorer level of accommodation and they were also more often poly-substance users than the older clients. In addition, anger level decreased with age.

Table 3 presents demographic data on the therapists and data on their therapeutic orientation.

Only three, of the total of 33 therapists, were men. Almost every second therapist had relevant university-level education. Two thirds of them were social workers, the rest were nurses. However, they all had the same task: therapy with clients. Most of the therapists had worked in sub-

Table 3. Background information on therapists (*N* = 33).

	n	%
Age (years)		
31–40	2	6.1
41–50	17	51.5
51–	14	42.4
Gender		
Male	3	9.1
Female	30	90.9
Marital status		
Single	5	15.2
Co-habiting	5	15.2
Married	19	57.6
Divorced	4	12.1
Basic education		
Comprehensive School	8	24.2
High School	25	75.8
Professional education		
College or Polytechnic	17	51.5
University	16	48.5
Job title		
Nurse	12	36.4
Social worker	21	63.6
Experience in substance abuse treatment		
Under 5 years	8	24.2
5–15 years	15	45.5
Over 15 years	10	30.3
Therapeutic orientation		
Cognitive therapies	4	12.1
Motivational interviewing	1	3.0
Solution-focused	4	12.1
Psychodynamic	2	6.1
Eclectic	20	60.6
None of the above	2	6.1
Lengthy training in therapy		
Yes	15	45.5
No	18	54.5

stance abuse treatment for a considerable time. The median number of clients per therapist was nine (min = 1; max = 20).

As to the various therapeutic approaches used by therapists, the most important were cognitive therapies, motivational interviewing and solution-focused therapy. However, eclecticism was common: nearly two thirds of the therapists used a combination of several methods.

Materials

Data was gathered at baseline, during treatment and at follow-up. Before starting treatment, the clients completed a baseline data form including questions that had been found useful in earlier studies (Saarnio & Knuuttila 2003; 2007). They concerned demographic factors, substance abuse and attitude to therapy. The same form included measures of readiness to change and anger.

The University of Rhode Island Change Assessment Scale (URICA; DiClemente & Hughes 1990) was used to measure client's readiness to change. The Finnish 12-item version of URICA-FI-12 was used. This is a shortened version of URICA-FI-32 (Saarnio & Knuuttila 2003; 2007), which is a Finnish version of the original URICA with 32 items.

The clients responded to the URICA on a five-step numerical scale (1 = totally disagree … 5 = totally agree). The items were divided into four scales for the stages of change: 1) precontemplation, 2) contemplation, 3) action, and 4) maintenance. A composite variable to describe readiness to change was formed of the scale scores as follows: contemplation + action + maintenance – precontemplation.

The alpha reliabilities of the scales were on the same level as in the original study (DiClemente & Hughes 1990): 1) precontemplation 0.71 (0.69), 2) contemplation 0.76 (0.75), 3) action 0.72 (0.82), and 4) maintenance 0.79 (0.80).

The client's anger was elicited using the

10-item Trait Anger Scale (TAS), which is a part of the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger 1999). The clients responded on the form using a four-step numerical scale (1 = hardly ever … 4 = almost always). The composite score for the scale was used in the study.

The form and its instructions were translated into Finnish, and it was piloted before being used in the study. The alpha reliability of the TAS scale was 0.85. In the STAXI-2 manual, the reliability of the scale is only reported according to gender: 0.86 for males and 0.84 for females (Spielberger 1999).

The baseline data form for therapists included responses concerning their background and therapeutic orientation, including their attitude to excessive directiveness: "In motivational interviewing one avoids directly telling the client what to do. How important do you consider this principle in substance abuse treatment?" The response used a five-step numerical scale (1 = very unimportant … 5 = very important).

Therapist's interpersonal functioning was investigated at the same time using the method of Valle (1981), where the rating criteria originated in Carkhuff & Berenson (1977). Saarnio & Mäntysaari (2002) piloted the method in local conditions. Moreover, Saarnio (2002) used it in his study on dropping out of substance abuse treatment.

The point of departure in the method were the stories of five substance abuse clients or their relatives, on the basis of which therapists wrote about how they would have acted in the situation in question. The vignettes were direct translations of the stories used by Valle (1981). There was unlimited time to respond.

The raters were two students of social work and one mental health professional. According to Saarnio & Mäntysaari (2002) and Saarnio (2002), the gender or length of working experience of the rater is not significant for the results. Nor is the professional knowledge of the rater essentially significant as the evaluation focuses on the therapist's interpersonal functioning not on her/his professional knowledge.

Except for the vignette responses the raters had no other knowledge of the subjects, nor did they know anything about each other. They were asked first to familiarize themselves with an excerpt from the book by Carkhuff & Berenson (1977) presenting the four rating dimensions: empathy, genuineness, respect for the client and concreteness, of which only empathy was used in this study. Next they read the written texts of the therapists and made their ratings. These were based on a nine-point scale.

Inter-rater reliability measured by Cronbach's alpha was good: empathy 0.81, genuineness 0.71, respect for client 0.76, and concreteness 0.81. Inter-vignette alpha reliability was even higher: empathy 0.87, genuineness 0.90, respect for client 0.90, and concreteness 0.89.

In connection with the first session, the therapist recorded the client's contact data and the time of the follow-up appointment. After the fifth session at the latest, the therapist also recorded the code showing retention in treatment, which was used as one of the response variables: 1) treatment was completed as agreed, 2) uninterrupted treatment period continues, 3) absences, but treatment period continues, 4) client dropped out after first session, 5) client

dropped out later. In this study, these were combined into three classes for the analyses. The first one formed a category of its own for those who had completed their treatment in mutual understanding. The second category, treatment continues, was formed from categories 2 and 3. The third category, dropping out, consisted of original classes 4 and 5. Other response variables were percentage of days abstinent at follow-up (PDA_F) and client satisfaction at follow-up (SAT_F). Both of these were measured as a single item self-report.

Among other things, the follow-up form elicited substance use, contacts with problem substance abusers, participation in mutual-help groups, and satisfaction with the therapist.

Data analysis

The analyses were based on different regression models. Both multinomial and linear analyses were used, depending on whether the dependent variable was categorical or quantitative. Different comparisons were made using *t*-test, χ^2 test and *U*-test. Statistical procedures were used to screen for violations of the major assumptions of linearity, normality and homoscedasticity. Statistical analyses of data were performed using SPSS for Windows, version 13.0.

Results

Analyses were threefold and were conducted for 1) treatment retention, 2) percentage of days abstinent at follow-up, and 3) satisfaction with the therapist at follow-up with the selected independent variables.

The first analysis examined was how client's (n = 286) readiness to change (REA), anger (ANG) and percentage of days abstinent at baseline (PDA_B) and therapist's empathy (EMP) and attitude to excessive directiveness (DIR) predicted retention in treatment. The method selected was multinomial regression analysis. Percentages according to retention in treatment categories were as follows: 1) treatment period was completed as agreed (22.0%), 2) treatment period continues (37.8%), and 3) dropping out (40.2%).

In the likelihood ratio test of the multinomial logistic regression model client's readiness to change ($\chi^2_2 = 6.05$, $p = .05$) and therapist's attitude to directiveness ($\chi^2_2 = 8.01$, $p = .02$) were significant predictors of retention in treatment. Therapist's empathy ($\chi^2_2 = 5.32$, $p = .07$) and client's percentage of days abstinent in baseline ($\chi^2_2 = 5.66$, $p = .06$) were close to statistical significance. By contrast, client's anger did not have a significant effect. The model's predictive value, R^2, was .09.

The reference group for the independent variables (clients who had completed their treatment as agreed) differed from other groups. Client's low readiness to change, therapist's low directiveness and low empathy was associated with therapy being completed as agreed. On the other hand, when the reference group was changed to dropping out, client's percentage of days abstinent at baseline (PDA_B) was significant. Those whose treatment was continuing had an average of 65% abstinent days, while among those whose treatment was interrupted it was ten per cent lower (55%). Table 4 shows the results of this first regression analysis.

Next, a stepwise linear regression was performed using PDA_F as a dependent variable. We examined how the same com-

Table 4. The effects of therapist's attitude toward excessive directiveness (DIR), empathy (EMP), client's readiness to change (REA), anger (ANG) and percentage days abstinent at baseline (PDA_B) on treatment retention

	Variables	B	*df*	*p*	Exp(B)
Treatment continues	DIR	0.719	1	.006**	2.053
	EMP	0.310	1	.065	1.363
	REA	0.138	1	.025*	1.149
	ANG	-0.017	1	.957	0.983
	PDA_B	0.006	1	.274	1.006
Treatment interrupted	DIR	0.518	1	.044*	1.679
	EMP	0.367	1	.027*	1.444
	REA	0.131	1	.031*	1.140
	ANG	0.194	1	.524	1.214
	PDA_B	-0.004	1	.404	0.996
Note. The reference category was: Treatment period was completed as agreed.					
Treatment continues	DIR	0.201	1	.356	1.223
	EMP	-0.058	1	.702	0.944
	REA	0.008	1	.891	1.008
	ANG	-0.211	1	.414	0.810
	PDA_B	0.010	1	.019*	1.010
Note. The reference category was: Treatment interrupted.					

bination of independent variables as in the first multinomial regression analysis predicted the clients' (n = 168) percentage of days abstinent at follow-up.

The client's percentage of days abstinent at baseline (β = .38; $p < .01$) and anger (β = -.16; p = .03) were statistically significant independent variables. The more often client used substances before treatment the more often he/she also used them after treatment. The angrier the client was on entering treatment, the lower was PDA_F during follow-up. The model's predictive value (R^2) was .17.

The third aspect examined was how the same independent variables predicted client's (n = 163) satisfaction with therapist at the end of follow-up. This was predicted with a stepwise linear regression analysis.

Client's readiness to change (β = .07; p = .02) and percentage of days abstinent at baseline (β = .01; p = .04) emerged as statistically significant independent variables. The more readiness to change and abstinent days the client had at the outset, the more satisfied he or she was at follow-up with the support received from the therapist. The predictive value (R^2) was .05. PDA_F and satisfaction were weakly correlated, even after controlling for PDA_B (r = 0.25; $p < .01$).

Discussion

Summary of main findings

The study examined the impact of selected client and therapist characteristics on retention in treatment and effectiveness. The study combined the analysis of variables which have been found in various studies to predict client success in treatment. Client's low readiness to change, therapist's low directiveness and low empathy were

associated with short duration of the treatment as "agreed". The client's percentage of days abstinent at baseline predicted treatment retention: low percentage of days abstinent at baseline predicted high dropout rate. The client's high anger and low percentage of days abstinent at baseline were found to be associated with low percentage of days abstinent at follow-up. Client's satisfaction with therapist's support was predicted by client's high readiness to change and high percentage of days abstinent at baseline.

Discussing findings

The purpose of our study was to combine client and therapist characteristics that had been found important in previous research, and to use them to explain retention in treatment and effectiveness of treatment. The study confirmed earlier findings and supports the conclusions for practical treatment that had been drawn from them.

Adequate treatment retention of clients improves their potential to recover. Earlier studies have shown that treatment is of benefit to the majority of the clients who receive it (Moos & Moos 2003; Stark 1992; Weisner et al. 2003). The client's motivation for change also impacts the progress of treatment (Cahill et al. 2003; DiClemente & Scott 1997; Stark 1992). The present study produced similar findings. Clients who discontinued treatment rapidly but in mutual agreement with their therapist were less ready to change than those who continued in treatment or dropped out.

Many clients enter substance abuse treatment because of external pressure. They may take part in the treatment, but they are not willing to change their substance use. Readiness to change is not synonymous with participation in treatment (DiClemente et al. 1999). On the basis of this study it is not possible to draw valid conclusions on the external causes of the client's entering treatment, such as demands on the part of spouse, authorities or employer, nor on possible internal causes. Could it be that the clients with low readiness to change who completed their treatment as agreed had simply received treatment that matched their motivation, found it adequate to their needs and were satisfied with it?

How should a therapist treat a client who is not ready to change his or her substance use? In many cases, client's low readiness to change is interpreted as a denial of the substance use disorder or as non-compliance (Arminen & Perälä 2002), which may result in adopting a controlling style in therapy (Miller & Rollnick 2007). This, in turn, may cause opposition in the client and may provoke substance abuse, leading to a poor treatment outcome (Miller et al. 1993).

Our study indicated that low therapist directiveness, low empathy and client's low readiness to change increased early completion of treatment. Therapist's low directiveness and low empathy in treatment do not follow the principles of MI, in which empathy and low directiveness work together (Miller & Rollnick 2002). If the therapist had conveyed more empathy the clients might have stayed longer in treatment. Earlier research demonstrates that individuals persevering longer in treatment had better outcomes (Moos & Moos 2003).

Our study also demonstrated that client's low percentage of days abstinent in base-

line increased dropping out of treatment. Prior substance use seems to have predictive value in client's future substance use frequency (Adamson et al. 2009). In this study the reasons for this phenomenon can only be speculated on. The main question is: how do therapists notice and pay attention to such clients? Can outpatient treatment offer sufficient support to clients with more complex substance abuse problems in general?

The effectiveness of treatment was examined at follow-up by means of the client's percentage of days abstinent and satisfaction with the support given by the therapist at follow-up. The results on anger in Project MATCH received support from our study. A client who scored low on anger was more likely to abstain for a longer period than a high-scoring client. The impulsiveness associated with anger seems to be a risk factor for people with substance use disorders. An earlier study found that the more confrontational the therapist was, the more the client drank (Miller et al. 1993). Angry clients easily interpret the therapist's excessive directiveness as confrontation, with similar results.

An earlier study found that the client's readiness to change, measured at the start of treatment, was an appropriate way of predicting post-treatment drinking for up to three years (DiClemente et al. 2003). In this study the client's baseline readiness to change was linked to the client's satisfaction with the support given by the therapist measured at follow-up. It is possible to conclude that this reflects the dialectic of the client's capabilities and external requirements in relation to treatment effectiveness. It seems evident that the measure of readiness to change used in this study was an indicator of the client's internal readiness to change rather than of external readiness, and this manifested as satisfaction with treatment at follow-up. At this point the saying "Nothing succeeds like success "seems to apply.

How should the findings of this study be taken into account in practical treatment? The therapy session is an entity affected by both its participants. The client comes into therapy "with warts and all"; different substance use history, angry or not, ready to change or not. The therapist should take this into account. It appears that avoiding excessive directiveness and expressing empathy are nearly always useful.

Limitations

The principles considered to be the strengths of this study were discussed in the method section. However, certain limitations should be borne in mind when considering the findings. Most of the data was gathered using various questionnaires, and the possibility of response tendencies and problems of self-reported data must be taken into account.

Another limitation to be considered is the high rate of attrition. Only slightly more than a half of the clients attended follow-up. The study was implemented on naturalistic principles; that is, the clients were not "rounded up". As such, this study may give a more realistic picture of the authentic treatment situation and retention overall.

The follow-up period in the study was six months, which means that one should be careful about drawing extensive conclusions. However, six months may be enough to show the direction of development, as was shown by Project MATCH

(Stout et al. 2003), even if positive changes have often been found to deteriorate with longer follow-up periods (Allsop et al. 1997). The fact that the maximum number of sessions during the study was only five is also a limitation. Finally, there was no information on the number of clients who refused to participate in this project.

Future directions

The significance of common factors in substance abuse treatment has been a topic of recent debate. Our study contributes to this debate by highlighting a number of points concerning common factors that have also been shown to be important in earlier research. The focus of our study was therapist's empathy and attitude to excessive directiveness combined with client's readiness to change, anger and percentage of days abstinent at baseline. The conclusions may be briefly expressed as follows: the effectiveness of therapy does not only depend on client characteristics and past drug use behaviour; instead, it can also be influenced by the therapist's attitude. The importance of these factors may be the same whatever the therapy method.

At the beginning of treatment, the therapist often has little information about the client. The gathering of information relevant for treatment should be developed so as not to place unnecessary burden on the client. What would such relevant information be? The client's readiness to change, anger and the frequency of drug use have proven to be important factors for substance abuse treatment. In addition, it may be useful to elicit the client's beliefs and expectations regarding treatment. We need more detailed research on the kind of information that is needed about the client in order for the therapy encounter to be successful.

The therapist's effect on therapy should not be underestimated. Which aspects should the therapist pay attention to in his or her own actions? The findings of this study emphasize the therapist's non-directiveness and empathy working together. However, it is likely that there are other characteristics that should be considered for the therapy to be as effective as possible.

Declaration of interest None.

Vesa Knuuttila, Doctoral Student
School of Social Sciences and Humanities
33014 University of Tampere, Finland
E-mail: vesa.knuuttila@uta.fi

Katja Kuusisto, Ph.D., Postdoctoral Fellow
Institute for Advanced Social Research
33014 University of Tampere, Finland
E-mail: katja.n.kuusisto@uta.fi

Pekka Saarnio, Ph.D., Professor
School of Social Sciences and Humanities
33014 University of Tampere, Finland
E-mail: pekka.saarnio@uta.fi

REFERENCES

Adamson, S. J. & Sellman, J. D. & Frampton, C. M. A. (2009): Patient predictors of alcohol treatment outcome: A systematic review. Journal of Substance Abuse Treatment 36 (1): 75–86

Allsop, S. & Saunders, B. & Phillips, M. & Carr, A. (1997): A trial of relapse prevention with severely dependent male problem drinkers. Addiction 92 (1): 61–73

Arminen, I. & Perälä, R. (2002): Multiprofessional team work in 12-step treatment: constructing substance abusers to alcoholics. Nordisk Alkohol- & Narkotikatidskrift 19 (English Supplement): 18–32

Babor, T. F. & Del Boca, F. K. (Eds.) (2003): Treatment matching in alcoholism. Cambridge: Cambridge University Press

Bergmark, A. (2008a): On treatment mechanisms - what can we learn from the COMBINE study? Addiction 103 (5): 703–705

Bergmark, A. (2008b): Specific and contextual treatment mechanisms. Nordic Studies on Alcohol and Drugs 25 (4): 285–293

Beutler, L. & Malik, M. & Alimohamed, S. & Harwood, T. & Talebi, H. & Noble, S. & Wong, E. (2004): Therapist variables. In: Lambert, M. (Ed.): Handbook of psychotherapy and behavior change. New York: Wiley

Bohart, A. & Elliott, R. & Greenberg, L. & Watson, J. (2002): Empathy. In Norcross, J. (Ed.), Psychotherapy relationships that work: Therapist contributions and responsiveness to patients. New York: Oxford University Press

Bowen, A. & Trotter, R. (1995): HIV risk in intravenous drug users and crack cocaine smokers: Predicting stage of change for condom use. Journal of Consulting and Clinical Psychology 63 (2): 238–248

Bridle, C. & Riemsma, R. P. & Pattenden, J. & Sowden, A. J. & Mather, L. & Watt, I. S. & Walker, A. (2005): Review of the effectiveness of health behavior interventions based on the transtheoretical model. Psychology & Health 20 (3): 283–301

Burke, B. L. & Arkowitz, H. & Menchola, M. (2003): The efficacy of motivational interviewing: A meta-analysis of controlled clinical trials. Journal of Consulting & Clinical Psychology 71 (5): 843–861

Burke, B. & Dunn, C. & Atkins, D. & Phelps, J. (2004): The emerging evidence base for motivational interviewing: A meta-analytic and qualitative inquiry. Journal of Cognitive Psychotherapy 18: 309–322

Cahill, M. A. & Adinoff, B. & Hosig, H. & Muller, K. & Pulliam, C. (2003): Motivation for treatment preceding and following a substance abuse program. Addictive Behaviors 28 (1): 67–79

Carkhuff, R. & Berenson, B. (1977): Beyond counseling and therapy. New York: Holt, Rinehart and Winston

Colman, A. M. (2006): A dictionary of psychology. 2nd Edition. Oxford: Oxford University Press

Connors, G. J. & Donovan, D. M. & DiClemente, C. C. (2001): Substance abuse treatment and the stages of change selecting and planning interventions. New York: Guilford Press

Deffenbacher, J. L. & Oetting, E. R. & Thwaites, G. A. & Lynch, R. S. & Baker, D. A. & Stark, R. S. & Thacker, S. & Eiswerth-Cox, L. (1996): State-trait anger theory and the utility of the trait anger scale. Journal of Counseling Psychology 43 (2): 131–148

DiClemente, C. C. (2005): Conceptual models and applied research: The ongoing contribution of the transtheoretical model. Journal of Addictions Nursing 16 (1): 5–12

DiClemente, C. C. & Bellino, L. E. & Neavins, T. M. (1999): Motivation for change and alcoholism treatment. Alcohol Research & Health 23 (2): 86–92

DiClemente, C. C. & Carroll, K. M. & Miller, W. R. & Connors, G. J. & Donovan, D. M. (2003): A look inside treatment: Therapist effects, the therapeutic alliance, and the process of intentional behavior change. In: Babor, T. F. & Del Boca, F. K. (Eds.): Treatment matching in alcoholism. Cambridge: Cambridge University Press

DiClemente, C. C. & Hughes, S. O. (1990): Stages of change profiles in outpatient alcoholism treatment. Journal of Substance Abuse 2 (2): 217–235

DiClemente, C. C. & Prochaska, J. O. (1998):

Toward a comprehensive, transtheoretical model of change. In: Miller, W. & Heather N. (Eds.): Treating addictive behaviors. New York: Plenum Press

DiClemente, C. C. & Schlundt, D. & Gemmell, L. (2004): Readiness and stages of change in addiction treatment. American Journal on Addictions 13 (2): 103–119

DiClemente C. C. & Scott C. (1997): Stages of change: Interactions with treatment compliance and involvement. In: Onken, L. & Blaine, J. (Eds.): Beyond the therapeutic alliance. Keeping the drug-dependent individual in treatment. NIDA Research Monograph Vol. 165. Washington, DC: U.S. Department of Health and Human Services

Dunn, C. & Deroo, L. & Rivara, F. (2001): The use of brief interventions adapted from motivational interviewing across behavioral domains: A systematic review. Addiction 96 (12): 1725–1742

Hojat, M. (2007): Empathy in patient care. Antecedents, development, measurement and outcomes. New York: Springer

Imel, Z. E. & Wampold, B. E. & Miller, S. D. & Fleming, R. R. (2008): Distinctions without a difference: Direct comparisons of psychotherapies for alcohol use disorders. Psychology of Addictive Behaviors 22 (4): 533–543

Kadden, R. M. & Longabaugh, R. & Wirtz, P. W. (2003): The matching hypotheses: Rationale and predictions. In: Babor, T. F. & Del Boca, F. K. (Eds.): Treatment matching in alcoholism. Cambridge: Cambridge University Press

Karno, M. P. & Longabaugh, R. (2007): Does matching matter? Examining matches and mismatches between patient attributes and therapy techniques in alcoholism treatment. Addiction 102 (4): 587–596

Karno, M. P. & Longabaugh, R. (2005): An examination of how therapist directiveness interacts with patient anger and reactance to predict alcohol use. Journal of Studies on Alcohol 66 (6): 825–832

Karno, M. P. & Longabaugh, R. (2004): What do we know? Process analysis and the search for a better understanding of project MATCH's anger-by-treatment matching effect. Journal of Studies on Alcohol and Drugs 65 (4): 501–512

Kirshenbaum, A. P. & Olsen, D. M. & Bickel, W. K. (2009): A Quantitative review of the ubiquitous relapse curve. Journal of Substance Abuse Treatment 36 (1): 8–17

Luborsky, L. & Rosenthal, R. & Diguer, L. & Andrusyna, T. P. & Berman, J. S. & Levitt, J. T. & Seligman, D. A. & Krause, E. D. (2002): The dodo bird verdict is alive and well – mostly. Clinical Psychology: Science and Practice 9 (1): 2–12

Miller, W. R. & Benefield, R. G. & Tonigan, J. S. (1993): Enhancing motivation for change in problem drinking: A controlled comparison of two therapist styles. Journal of Consulting & Clinical Psychology 61 (3): 455–461

Miller, W. R. & Moyers, T. B. (2006): Eight stages in learning motivational interviewing. Journal of Teaching in the Addictions 5: 3–17

Miller, W. R. & Rollnick, S. (2002): Motivational interviewing: Preparing people for change (2. ed.). New York: Guilford Press

Miller, W. R. & Rollnick, S. (2009): Ten things that motivational interviewing is not. Behavioural & Cognitive Psychotherapy 37 (2): 129–140

Miller, W. R. & Taylor, C. A. & West, J. C. (1980): Focused versus broad-spectrum behavior therapy for problem drinkers. Journal of Consulting & Clinical Psychology 48 (5): 590–601

Moos, R. H. & Moos, B. S. (2003): Long-term influence of duration and intensity of treatment on previously untreated individuals with alcohol use disorders. Addiction 98 (3): 325–337

Moyers, T. B. & Miller, W. R. & Hendrickson, S. M. L. (2005): How does motivational interviewing work? Therapist interpersonal skill predicts client involvement within motivational interviewing sessions. Journal of Consulting & Clinical Psychology 73 (4): 590–598

Najavits, L. M. & Crits-Christoph, P. & Dierberger, A. (2000): Clinicians' impact on the quality of substance use disorder treatment. Substance Use & Misuse 35 (12–14): 2161–2190

Nielsen, B. & Nielsen, S. & Wraae, O. (2000):

Factors associated with compliance of alcoholics in outpatient treatment. Journal of Nervous & Mental Disease 188 (2): 101–107
Orford, J. & Hodgson, R. & Copello, A. & John, B. & Smith, M. & Black, R. & Fryer, K. & Handforth, L. & Alwyn, T. & Kerr, C. & Thistlewaite, G. & Slegg, G. & UKATT Research Team (2006): The clients' perspective on change during treatment for an alcohol problem: Qualitative analysis of follow-up interviews in the UK alcohol treatment trial. Addiction 101 (1): 60–68
Prochaska, J. O. (1979): System of psychotherapy: A transtheoretical analysis. Homewood, IL: Dorsey
Prochaska, J. O. (1999): How do people change, and how can we change to help many more people? In: Hubble, M. A. & Duncan, B. L. & Miller, S. D. (Eds.): The heart & soul of change: What works in therapy. Washington, DC: American Psychological Association
Prochaska, J. O. & DiClemente, C. C. (1982): Transtheoretical therapy: Toward a more integrative model of change. Psychotherapy: Theory, Research & Practice 19 (3): 276–288
Prochaska, J. O. & DiClemente, C. C. (1984): The transtheoretical approach: Crossing traditional boundaries of therapy. Homewood, IL: Dow Jones-Irwin
Prochaska, J. O. & DiClemente, C. C. & Norcross, J. C. (1992): In search of how people change: Applications to addictive behaviors. American Psychologist 47 (9): 1102–1114
Prochaska, J. O. & Norcross, J. C. (2007): Systems of psychotherapy: A transtheoretical analysis. Belmont, CA: Brooks/Cole
Prochaska, J. & Velicer, W. F. (1997): Behavior change: The transtheoretical model of health behavior change. American Journal of Health Promotion 12 (1): 38–48
Prochaska, J. O. & Velicer, W. F. & DiClemente, C. C. & Fava, J. (1988): Measuring processes of change: Applications to the cessation of smoking. Journal of Consulting & Clinical Psychology 56 (4): 520–528
Project MATCH Research Group (1998a): Matching alcoholism treatments to client heterogeneity: Project MATCH three-year drinking outcomes. Alcoholism: Clinical and Experimental Research 22 (6): 1300–1311
Project MATCH Research Group (1998b): Therapist effects in three treatments for alcohol problems. Psychotherapy Research 8 (4): 455–474
Rosenzweig, S. (1936/2002): Some implicit common factors in diverse methods of psychotherapy. Journal of Psychotherapy Integration 12 (1): 5–9
Saarnio, P. (2002): Factors associated with dropping out from outpatient treatment of alcohol-other drug abuse. Alcoholism Treatment Quarterly 20 (2): 17–33
Saarnio, P. & Knuuttila, V. (2003): A study of risk factors in dropping out from inpatient treatment of substance abuse. Journal of Substance Use 8 (1): 33–38
Saarnio, P. & Knuuttila, V. (2007): A study of readiness to change profiles in alcohol and other drug abusers. Journal of Addictions Nursing, 18 (3): 117–122
Saarnio, P. & Mäntysaari, M. (2002): Rating therapists who treat substance abusers. International Social Work 45 (2): 167–184
Spielberger, C. (1999): STAXI-2. State-trait anger expression inventory-2. Professional manual. Odessa, FL: Psychological Assessment Recources
Stout, R. & Del Boca, F. & Carbonari, J. & Rychtarik, R. & Litt, M. D. & Cooney, N. L. (2003): Primary treatment outcomes and matching effects: Outpatient arm. In: Babor, T. F. & Del Boca, F. K. (Eds.): Treatment matching in alcoholism. Cambridge: Cambridge University Press
Stark, M. J. (1992): Dropping out of substance abuse treatment: A clinically oriented review. Clinical Psychology Review 12 (1): 93–116
Valle, S. (1981): Interpersonal functioning of alcoholism counselors and treatment outcome. Journal of Studies on Alcohol 42 (9): 783–790
Waldron, H. B. & Miller, W. R. & Tonigan, J. S. (2001): Client anger as a predictor of differential response to treatment. In: Longabaugh, R. & Wirtz, P. W. (Eds.): Project Match hypotheses: Results and Causal Chain Analyses. Project MATCH Monograph Series Vol. 8. Bethesda, MD: NIAAA

Wampold, B. E. (2001): The great psychotherapy debate models, methods, and findings. Mahwah, NJ: Lawrence Erlbaum

Weisner, C. & Matzger, H. & Kaskutas, L. A. (2003): How important is treatment? One-year outcomes of treated and untreated alcohol-dependent individuals. Addiction 98 (7): 901–911.