

Master thesis

“Differences between dropout rates and possible predictors for dropout in Turkish, Moroccan and Iranian minority groups in an outpatient treatment setting in the Netherlands.”

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Universiteit Utrecht



i-psy

interculturele psychiatrie

**Differences between dropout rates and possible predictors for dropout in Turkish,
Moroccan and Iranian minority groups in an outpatient treatment setting in the
Netherlands**

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Abstract

Ethnic minorities are prone to mental disorders because of migration and acculturation processes, but they seem to dropout of treatment more often than non-minorities. Dropout rates might differ as well among ethnic minorities. However, research in this area is limited mainly to the United States. Also, little is known about contributing factors to dropout in ethnic minorities. The present study investigated differences in dropout rate between ethnic minority groups and between first and second generation minorities within minority groups in the Netherlands. It also studied the relationship of a lower attendance rate, a lower treatment intensity and missing therapy appointments with dropout in ethnic minorities in the Netherlands. Data of Moroccan, Turkish and Iranian patients were extracted from a case register belonging to a nationwide institute for intercultural psychiatry. Data were analyzed with chi square tests, univariate and logistic regression analyses. The results provided insufficient support for the idea that minority groups differ in dropout rate and that first generation minorities drop out of treatment more often than second generation minorities. The data supported the idea that a lower attendance rate, a lower treatment intensity and missing therapy appointments are associated with dropout among ethnic minorities. When entering these variables into the logistic regression model, it seemed that contributors to dropout differed among minority groups. Limitations of the study are discussed and suggestions for future study are offered.

Keywords: ethnic minorities, dropout, attendance rate, treatment intensity, missed appointments, first and second generation minorities.

Introduction

Dropping out of psychotherapy is a common clinical phenomenon (Baekeland & Lundwall, 1975; Clarkin & Levy, 2004; Reeder, P. & Tyson, R. L., 1980). Premature dropout is a serious matter because it reflects a breakdown in the delivery of the treatment and means that the patient did not receive the contracted treatment or the potential benefit of a worked through termination (Sledge, Moras, Hartley & Levin, 1990). Even highly effective treatments are unlikely to be of benefit to patients who terminate treatment prematurely (Persons, Burns, & Perloff, 1988). If dropout can be predicted, the initiation and course of therapy can potentially be modified in order to motivate the patient for concentrated work toward change and a reduction in premature dropout.

Previous studies have demonstrated a higher dropout rate among ethnic minority groups compared to non-ethnic minority groups in response to psychotherapy treatment (e.g. Arnow et al., 2007; Chui, Safer, Bayson, Agras and Wilson, 2007; Organista, Muñoz & González, 1994; Rosenheck, Fontana & Cottrol, 1995; Zane, Enomoto and Chun, 1994). In the Netherlands, research on dropout in ethnic minorities has been conducted by Blom, Hoek, Spinhoven, Hoencamp, Haffmans & Van Dyck (2010). In a sample of patients with a Dutch, Moroccan, Turkish and Surinam background receiving interpersonal psychotherapy and pharmacotherapy treatment for depression, they found that treatment attrition for ethnic minority patients was significantly higher (45.9%) than in non-ethnic minority patients (24.4%). Another Dutch study (Fassaert et al., 2010), found that dropout from depression treatment was significantly higher among Moroccan, Turkish, and Surinam immigrants (16.3%) than among ethnic Dutch (12.4%). Thus, minority status appears to be one of the predictors of dropout.

Besides research on differences between ethnic minority groups and non-ethnic minority groups, there are indications that minority groups differ among themselves in response to psychotherapy since cultural background and migration history are influential regarding therapy attitude (e.g. Arnold et al., 2003; Chen and Rizzo, 2010). White, Winn & Young (1998) for example, found that treatment attrition was more likely to occur among Hispanics than among African-Americans. Studies on differences in dropout between minority groups in the Netherlands however, fail to appear.

One of the possible influential factors on dropout rate in ethnic minorities might be acculturation level (Haasen, Demiralay, & Reimer, 2008). Acculturation refers to the dual process of cultural and psychological change that takes place as a result of contact between

two or more cultural groups and their individual members (Berry, 2005). There are indications that acculturation plays an important role in psychotherapy outcome (Alvidrez, Alcozar & Miranda, 1996): the lower the acculturation level of an individual, the worse the treatment outcome (Miranda, 2005) and the higher the dropout rate (Miranda, 1976). Hall (2001) proposes that successfully applied interventions on ethnic minority groups can be explained by the high level of acculturation of the group. In routine clinical practice, the acculturation level is often not determined. There are several indications however, that level of acculturation is related to generation (e.g. Bagourdi, 2007). Therefore it is presumed that second generation minorities have a higher level of acculturation and thus show a lower dropout rate than the first generation.

Furthermore, it is unclear which other factors contribute to dropout in minority groups. It seems that, in general, missing therapy appointments is an important contributor to dropout. A previous study found that patients who missed one or more therapy session(s) had a dropout rate of 46.4 % versus 17.5% of the patients who did not miss any therapy appointment (Berrigan and Garfield, 1981). Also, different studies emphasize the importance of a higher treatment intensity in relation to adherence (Hiller, Knight & Simpson, 1999; Leon, Sacks, Staines & McKendrick, 2000; Roberts & Nishimoto, 1996). However, these contributing factors on dropout have not been tested on ethnic minorities specifically. Moreover, a review reported findings on attendance rates and dropout rates, but treated both variables as two separate dependent variables and did not test their relationship to each other (Walitzer, Dermen & Connors, 1999). It would be interesting to investigate whether a lower attendance rate has a relationship with dropout in ethnic minorities.

Dropout from treatment in ethnic minorities is a serious matter. They are vulnerable to mental disorders since migration and the process of acculturation is often accompanied with a reduction in immigrants health status (Bengi-Arslan, Verhulst & Crijnen, 2002). Because little is known about dropout differences between minority groups and the influence of acculturation on dropout in the Netherlands, the present study investigates differences in dropout rate between ethnic minority groups and between first and second generation minorities within minority groups. To learn more about contributing factors to dropout in ethnic minorities, the relationship of attendance rate, treatment intensity and missing therapy appointments with dropout in ethnic minorities will be studied. Available demographic, health-related and treatment-related variables are taken into account.

It is hypothesized that differences between ethnic minorities will be found, that second generation minorities show lower dropout rates than first generation minorities and that a lower attendance rate, a lower treatment intensity and missing one or more therapy appointment(s) are associated with dropout in ethnic minorities.

Method

Sample

Data of patients who were seen in individual therapy were extracted from a case register belonging to I-Psy, a nationwide institute for intercultural psychiatry. Cases in which a patient had the age between 18 and 65, had attended one intake examination and at least one psychotherapy session were selected for analysis. All interventions were patient-focused/eclectic interventions. Because the patients with a Moroccan, Turkish and an Iranian background formed the majority of the minority groups by far, this study focuses on dropout in immigrants from Morocco, Turkey and Iran. The sample consisted of first and second generation patients, except for the Iranian minority group, which consisted of first generation patients only.

Procedure

A data file with a list of 585 terminated treatments in 2010 until the starting of data extraction at I-Psy Utrecht was available. After excluding the cases which immediately opened again and still were open by the time of datamining (N=113), cases under 18 or above 65 (78), cases from another descent than Moroccan, Turkish, or Iranian (64), cases which underwent merely an intake/diagnose phase (95), missing files (2), cases with poor data (2), and double cases (2), 229 episodes of care were left over for an equal amount of patients to include in the analysis. An episode of care is defined as the interval between registration with a service for a mental health problem and a final or last contact with the service. The sample consisted of 100 Moroccan, 94 Turkish and 35 Iranian patients of I-Psy Utrecht. Anonymity was guaranteed by encoding patients' personal details (see Figure 1).

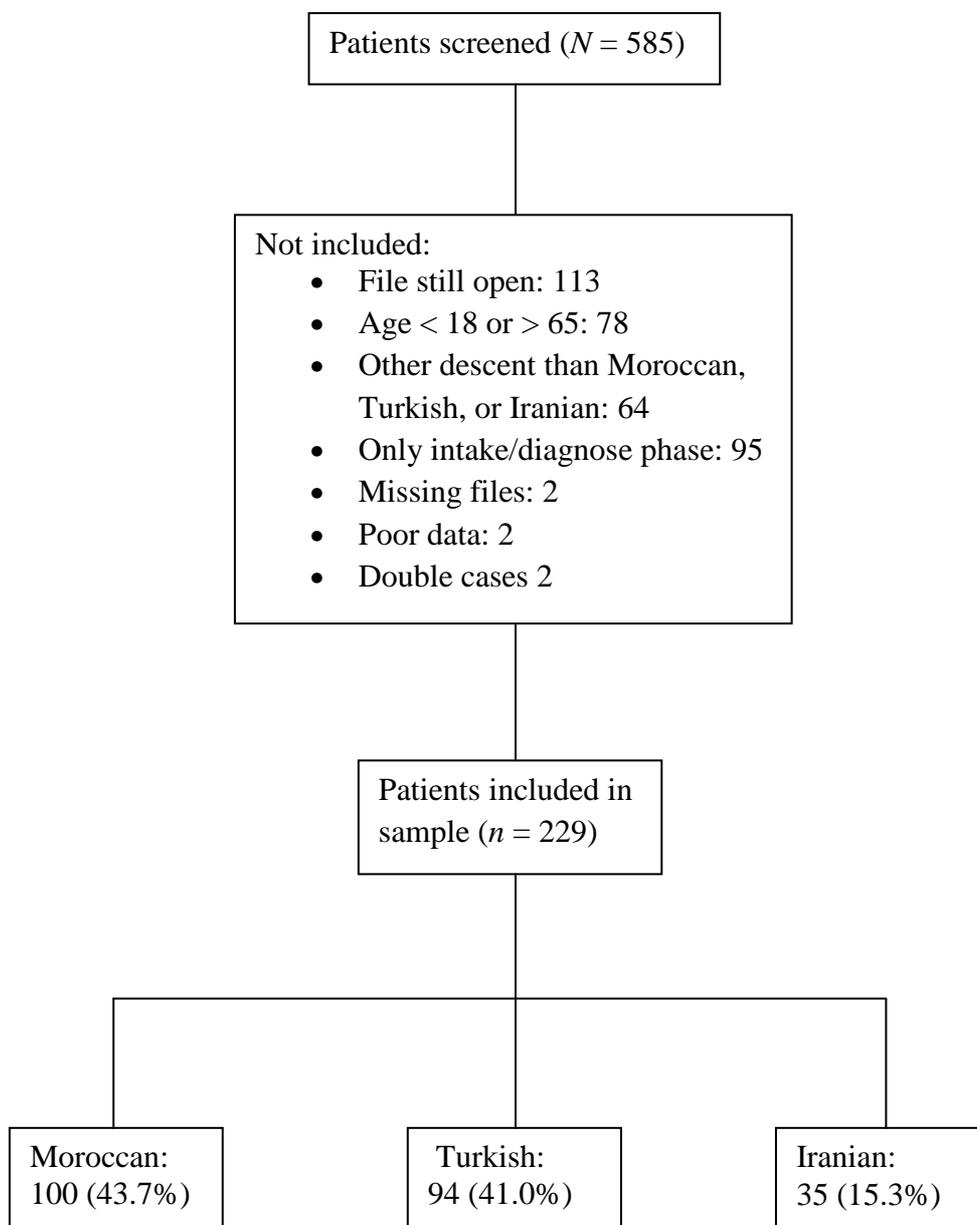


Figure 1: Procedure of including patients in the sample

Variables

Demographic variables

Demographic variables included age, gender, ethnic background, marital status, educational level, the number of years a patient lived in the Netherlands and whether a patient was a first or second generation migrant. Ethnic background was defined according to the patient's or patient's parent(s) country of birth (Stronks, Kulu-Glasgow, & Agyemang, 2009). The first generation referred to individuals born in one of the countries corresponding to the defined ethnic background. The second generation referred to the patients born in the Netherlands and of whom at least one parent was born in a non-western country.

Health-related variables

Health-related variables included the *DSM-IV* main diagnose (American Psychiatric Association, 1994), a possible comorbid diagnose on Axis I, a possible Axis II-diagnose and current GAF-score. The individual diagnoses on Axis I were grouped later on by the main classifications affective disorders, anxiety disorders, adjustment disorders and other. The latter included somatoform disorders, sleeping disorders, substance dependence disorders, sexual disorders, dissociative disorders, concern with family and relational problems, concern with acculturation problems and impulse-control disorders.

Treatment-related variables

Treatment-related variables included whether a patient was assigned to a therapist with the same ethnical background ('matching') and whether a patient was assigned to a licensed therapist. A licensed therapist was considered to be a psychologist who followed two or more years of training to receive a license that he belongs to a register providing clarity and certainty regarding his qualifications and entitlements to practice psychotherapy. A unlicensed therapist was considered to be a psychologist who graduated in Psychology with a master's degree, but had not (yet) followed the extra training to become a licensed therapist. Other variables included whether the patient received pharmacotherapy ('pharmacotherapy'), whether the patients missed one or more therapy sessions without prior notification or missed none of the sessions (' ≥ 1 missed therapy session'), attendance rate and treatment intensity. Attendance rate was calculated by dividing the number of attended sessions by the number of planned sessions. A planned session consisted of the number of attended visits plus the number of missed visits without notification. Cancelled sessions by the patient with prior notification were not part of the planned sessions. Treatment intensity was calculated by the

number of attended therapy sessions within an treatment episode, divided by the treatment duration in months. For example, a treatment intensity of 2.0 indicated that a patient had an average of two ambulatory contacts per month (Fassaert et al., 2010).

Dropout

Dropouts were defined as patients at I-Psy who had terminated treatment earlier than the recommended number of sessions and did not continue treatment elsewhere or in another mental health institution due to, for example, referral. In most cases, the patients who were rated as dropouts, were those who did not show up anymore and/or could not be contacted anymore. One reason for discontinuation of the therapy, which was rated as dropout as well, was refusal of treatment continuation with another therapist within the same mental health setting because of the current therapist's departure (6 patients). Other reasons for discontinuation of psychotherapy which were rated as non-dropouts, were a temporary break because of medical (1 patient) or logistical reasons (3 patients) or pregnancy (2 patients), remigration to the country of birth or a long vacation (six weeks or longer) (3 patients) and early termination of psychotherapy in agreement with the therapist (e.g. no clear request for help or the need for more practical help) (4 patients).

Excluded variables

Originally, 18 variables were coded for the study. The number of years a patient lived in the Netherlands was not available for 61 cases and therefore this variable was omitted. Too few patients had a comorbid *DSM-IV* diagnose (104 patients) on Axis I and a comorbid *DSM-IV* diagnose on Axis II (19 patients). For this reason these variables were excluded as well, leaving 14 variables for analysis.

Statistical analysis

Ethnic minority groups were evaluated to examine whether they differed on demographic, health-related and treatment-related variables with chi-square tests for categorical variables and an analysis of variance for continuous variables. Post hoc comparisons were conducted with Tukey's method and the Mann-Whitney U test.

To investigate differences on dropout for minority group and generation, chi square tests and post hoc Mann Whitney U tests were performed. To examine the relationship of a lower attendance rate, a lower treatment intensity and ≥ 1 missed appointment(s) could be applied to the minority groups, univariate tests and post hoc Tukey's method tests were performed on attendance rate and treatment intensity and a chi square test and Mann Whitney

U test was performed on ≥ 1 missed appointment(s). Next, logistic regression was conducted to assess the actual contribution of attendance rate, treatment intensity and ≥ 1 missed appointment(s) on dropout for each minority group. Other variables which differed significantly on dropout were selected for entry as well into the initial logistic regression model. In the first block ≥ 1 missed appointment(s) and treatment intensity were entered (because for these factors the most theoretical support was found), in the second block attendance rate was entered and in the third block the covariates were entered. The analyses were performed with SPSS, version 18.0.

Results

Descriptives

Ethnic minority groups differed significantly on a number of variables: Moroccan and Turkish patients had a significantly lower educational level (both $p < .001$) and more frequently received pharmacotherapy ($p < .01$ and $p < .05$) than Iranian patients. Moroccan patients missed significantly more often one or more therapy appointment(s) than Iranian patients ($p < .05$). For the Turkish and Iranian patients, attendance rate was significantly higher (both $p < .05$), the proportion of matched dyads was significantly larger ($p < .001$) and the proportion of patients assigned to a licensed therapist was significantly smaller ($p < .001$) compared to the Moroccan patients (see Table 1).

Table 1: Sample characteristics of patients treated by I-Psy Utrecht in the Netherlands, by ethnic background

	Moroccan (N = 100)		Turkish (N = 94)		Iranian (N = 35)	
Characteristic						
<i>Means</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (years)	40.9	10.5	38.4	10.4	42.6	10.7
Treatment intensity	1.45	1.12	1.25	.50	1.41	.93
Current GAF-score	52.3	6.5	53.1	7.3	56.9	9.3
<i>Categories</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Female	55	55.0	57	60.6	24	68.6
Marital status ^a						
Single	7	7.1	6	6.3	1	2.9
Married	64	64.6	70	74.5	23	65.7
Divorced	24	24.2	17	18.1	10	28.5
Widowed	4	4.1	1	1.1	1	2.9

Table 1 (continued)

Educational level ^b						
None	27	34.2	1	1.3	1	2.9
Elementary	9	11.4	37	46.3	2	5.9
High school	25	31.6	20	25.0	9	26.5
Post-education	18	22.8	22	27.4	22	64.7
Generation ^c						
First	83	86.5	81	87.1	35	100
Second	13	13.5	12	12.9	0	0
Main diagnose Axis I						
Affective disorder	45	45	39	41.5	20	57.1
Anxiety disorder	19	19	12	12.8	0	0
Adjustment disorder	19	19	18	19.1	7	20
Other	17	17	25	26.6	8	22.9
≥1 missed therapy session	70	70	54	57.4	17	48.6
Matching	59	59.0	86	91.5	32	91.4
Licensed therapist	86	86.0	13	13.8	1	2.9
Pharmacotherapy	59	59.0	43	45.7	8	22.9
Dropout	36	36.0	26	27.7	9	25.7

^a 1 missing value

^b 36 missing values

^c 5 missing values

Differences in dropout rate

Minority groups

There were no differences in the percentage of dropout between minority groups. 36% of the Moroccan patients, 27.7% of the patients and 25.7% of the Iranian patients dropped out of treatment. Results indicated no significant statistical differences between the groups ($\chi^2(2)=2.12, p=.35$) (see Table 2).

First and second generation patients

There were no significant differences in the percentage of dropout between first and second generation patients within minority groups. Of the Moroccan minority group, 34.9% of the first and 46.2% of the second generation patients dropped out of treatment ($\chi^2(1)=.61, p=.44$), of the Turkish minority group, 24.7% of the first and 41.7% of the second generation dropped out of treatment ($\chi^2(1)=1.53, p=.22$). All of the Iranian patients were first generation patients, so differences between first and second generation patients could not be compared.

Missing one or more therapy appointment(s)

Differences were found between patients who missed one or more therapy appointment(s) versus patients who missed none of the psychotherapy appointments. Moroccan patients who missed one or more therapy appointment(s), had a significantly higher percentage of dropout (47.1%) than those who missed none of the therapy appointments (10%) ($\chi^2(1)=12.6$, $p<.001$). For the Turkish patients, the difference was significant as well: 35.2% dropped out of treatment who missed one or more therapy appointment(s) versus 17.5% who missed none of the appointments ($\chi^2(1)=3.6$, $p<.05$). Of the Iranian patients who missed one or more psychotherapy appointment(s), 29.4% dropped out of treatment versus 22.2% of those who missed none of the therapy appointment(s). The difference however, was not significant ($\chi^2(1)=.2$, $p=.63$).

Attendance rate

Significant differences were found on attendance rate between patients who dropped out of treatment and who adhered. Moroccan patients who dropped out of treatment had a lower mean attendance rate (.76) than those who adhered (.91) ($F(1,229)=31.8$, $p<.001$). For Turkish patients, those who dropped out had a mean attendance rate of .85 versus .94 for those who adhered ($F(1,229)=9.1$, $p<.005$). The mean attendance rate for Iranian patients who dropped out and adhered was .89 and .94 respectively, but results were not significant ($F(1,229)=.8$, $p=.38$).

Treatment intensity

Significant differences were found on treatment intensity for the Moroccan minority group between patients who dropped out of treatment and who adhered. Those who dropped out of treatment had a lower mean treatment intensity (1.07) than those who adhered (1.66) ($F(1,100)=6.75$, $p<.05$). For the Turkish and the Iranian minority group, results were not significant. Those who dropped out in the Turkish minority group had a mean treatment intensity of 1.22 versus 1.26 for those who adhered ($F(1,94)=.14$, $p=.71$). The mean treatment rate for Iranian patients who dropped out and adhered was 1.02 and 1.55 respectively ($F(1,35)=2.22$, $p=.15$).

Table 2: Differences in dropout rate and means by ethnic background

	Moroccan		Turkish		Iranian	
	dropout	adhere	dropout	adhere	dropout	adhere
<i>Percentages</i>						
Overall	36.0%		27.7%		25.7%	
First generation	46.2%		24.7%		25.7%	
Second generation	34.9%		41.7%		-	
≥1 missed therapy appointment(s)	47.1%*		35.2%***		29.4%	
No missed therapy appointment	10.0%		17.5%		22.2%	
<i>Means</i>						
Attendance rate	.76	.91*	.85	.94**	.89	.94
Treatment intensity	1.07	1.66***	1.22	1.26	1.02	1.55

* $p < .001$

** $p < .005$

*** $p < .05$

Contributors to dropout

Moroccan minority group

For the Moroccan minority group, the first model was statistically significant ($\chi^2 (2)=20.46$, $p < .001$) (see Table 3). The model explained between 18.5% (Cox and Snell R square) and 25.4% (Nagelkerke R squared) of the variance in dropout, and correctly classified 64.0% of the cases. Both entered variables (≥ 1 missed appointment(s) and treatment intensity) made a significant contribution to the model, with an odds ratio of 8.11 and .49 respectively, suggesting that patients missing one or more therapy appointment(s) and having a lower treatment intensity were more likely to drop out of treatment. When adding attendance rate in the second model, it contributed significantly to the model ($\chi^2 (1)=9.80$, $p < .005$) explaining between 26.1% and 35.8% of the variance in dropout and correctly classifying 75% of the cases, with an odds ratio of .00. However, ≥ 1 missed appointment(s) and treatment intensity lost their significance as contributing factors to dropout. Matching was a covariate ($\chi^2(1)=4.9$, $p < .05$), but when entered into the third model, it did not make a significant contribution to the model anymore ($\chi^2 (1)=.40$, $p = .53$).

Turkish minority group

For the Turkish minority group, the first model was not statistically significant ($\chi^2 (2)=3.55$, $p = .17$). When adding attendance rate in the second model, significance of the model was reached ($\chi^2 (1)=4.20$, $p < .05$), explaining between 8.0% (Cox and Snell R square) and 11.5% (Nagelkerke R squared) of the variance in dropout and correctly classifying 73.1% of the cases. However, attendance rate did not make a separate significant contribution to dropout.

Age was a covariate ($F(1,229)=6.3, p<.05$) and when entered into the third model, it seemed to contribute significantly to the model ($\chi^2(1)=4.68, p<.05$), explaining between 12.5% and 18.0% of the variance in dropout and correctly classifying 74.2% of the cases. The odds ratio was .95, suggesting younger age being associated with dropping out of treatment.

Iranian minority group

For the Iranian minority group, the first model was not statistically significant ($\chi^2(2)=2.48, p=.29$) and so was the second model ($\chi^2(1)=.03, p=.88$). No covariates were found, so a third model was not tested.

Table 3: Significant models on dropout by ethnicity

	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p</i>	Odds Ratio	95.0% C.I. For Odds Ratio	
						Lower	Upper
Moroccan							
<i>Model 1</i>							
≥1 missed appointment(s)	2.10	.68	1	<.005	8.11	2.13	30.96
Treatment intensity	-.72	.33	1	<.05	.49	.26	.93
Constant	-1.30	.69	1	.06	.27		
<i>Model 2</i>							
≥1 missed appointment(s)	.65	.84	1	.44	1.91	.37	9.89
Treatment intensity	-.64	.36	1	.08	.53	.26	1.07
Attendance rate	-6.91	2.46	1	<.01	.00	.00	.12
Constant	5.55	2.57	1	.03	256.01		
Turkish							
<i>Model 2</i>							
Treatment intensity	.01	.69	1	.99	1.01	.26	3.90
≥1 missed appointment(s)	.12	.50	1	.81	1.12	.43	2.97
Attendance rate	-5.34	2.72	1	.05	.01	.00	1.00
Constant	3.67	2.68	1	.17	39.07		
<i>Model 3</i>							
Treatment intensity	.07	.71	1	.92	1.07	.27	4.30
≥1 missed appointment(s)	-.34	.55	1	.54	.72	.24	2.10
Attendance rate	-4.20	2.79	1	.13	.02	.00	3.57
Age	-.06	.03	1	<.05	.95	.90	1.00
Constant	5.28	2.88	1	.07	195.89		

Discussion

The present study investigated differences in dropout rate between ethnic minority groups and between first and second generation minorities within minority groups in the Netherlands. It also studied the relationship of a lower attendance rate, a lower treatment intensity and missing therapy appointments with dropout in ethnic minorities in the Netherlands. Primarily, it has to be noted that, although most of the results were quite the same for all minority groups, no significant results were reached for the Iranian minority group, probably due to the small sample size of the group.

The results that no differences were present between minority groups on dropout rate were surprising, considering the different characteristics of the minority groups which might influence dropout rate according to the literature. For example, the Iranian minority group had a higher educational level than the Turkish and Moroccan minority group. Some studies mention that high educational level is related to therapy adherence (Blackburn, Bishop, Glen, Shalley & Christie, 1981; Wierzbicki & Pekarik, 1993), while according to other studies, this is not the case (e.g. Simons, Levine, Lustman & Murphy, 1984). Also, the Iranian minority group was to receive the least pharmacotherapy, while most studies state that a combination of psychotherapy and pharmacotherapy is better than psychotherapy alone for therapy adherence (Blom et al., 2010; Casacalenda, Perry & Looper, 2002; De Jonghe, Kool, Van Aalst, Dekker, Peen, 2001). Furthermore, the Moroccan minority group had the smallest proportion of matched dyads, which according to some studies could have predicted dropout (e.g. Maramba, & Hall, 2002). They also had the largest proportion of patients treated by a licensed therapist, who are more qualified than basic therapists and would predict therapy adherence. Moreover, the minority groups differed as well on attendance rate and ≥ 1 missed appointment(s). Despite all these differences, it did not have its effect on differences in dropout between the minority groups. A notable finding is that the percentage of dropout in minority patients found in this study was around the same percentage of dropout found by Blom et al. (2010) in non-minority patients. This could question the difference of ethnic minorities and non-ethnic minorities in relation to dropout.

Second generation patients did not show a lower dropout rate than first generation patients. Although the findings were not significant, they were the reverse of what was expected and may question the importance of acculturation in relation to dropout. According to some studies, acculturation is not related to treatment dropout (e.g. McCabe, 2002). There are no studies, however, which concretely show a relation with a higher acculturation level

and a higher dropout percentage. Further research is needed to broaden knowledge on acculturation and dropout.

It seemed that missing one or more therapy appointment(s) was associated with dropout for Moroccan and Turkish patients. The dropout percentage of Moroccan patients who missed one or more therapy appointment(s) was almost five times the dropout percentage of the patients who did not miss any of the therapy appointments. The dropout percentage of Turkish patients who missed one or more therapy appointment(s) was twice the dropout percentage of the patients who did not miss any of the therapy appointments. The percentages of dropout for the Moroccan and Turkish patients on missing one or more therapy appointment(s) versus missing none of the therapy appointments were of similar magnitude as the dropout percentages found by Garfield and Berrigan (1981) on this factor. The results indicate that missing one or more therapy appointment(s) is seriously related to dropout.

A lower attendance rate was associated with dropout for Moroccan and Turkish patients as well. The patients who dropped out, did not have a dramatically low attendance rate though. The results suggest that a very high attendance rate is needed to adhere to treatment. It might encourage further research on this factor.

Treatment intensity was associated with dropout only for the Moroccan patients. Patients who dropped out attended one session per month versus more than one and a half sessions per month for patients who adhered, suggesting that attending a session more than once a month enhances the chance a patient adheres. The results on treatment intensity are consistent with some studies that a more intensive treatment is related to treatment adherence (Hiller, Knight & Simpson, 1999; Leon, Sacks, Staines and McKendrick, 2000; Roberts and Nishimoto's, 1996) but inconsistent with others, in which either the opposite (Drake & Sederer, 1986), or no relationship (Moos & Moos, 2003) was found. In future research it could be evaluated in which conditions treatment should be intensive and in which conditions it should be moderate. Also, it could be studied what the most ideal treatment intensity should be to create optimal treatment adherence.

When looking at actual predictors to dropout, treatment intensity and missing one or more therapy appointment(s) had an actual contribution to dropout for the Moroccan minority group. For the Turkish minority group, only a younger age was predictive to dropout. This is consistent with the findings of Arnou et al. (2007) and Organista, Muñoz and González (1994) on age in relation to dropout.

Limitations of the study

A limitation of the study is the small sample size of the Iranian minority group and the unbalanced ratio of first and second generation patients. Furthermore, the exact demographic background and migration history of the minorities could not be traced. For example, it was unclear whether patients were refugees or economic migrants. Results could have been different if this was known. Besides, one could question the correctness of taking generation as a synonym for acculturation, therefore, more research has to be conducted on the relationship between generation and acculturation level.

Another limitation of the study is the subjective judgment on the concept of dropout (Wierzbicki & Pekarik, 1993). In this study, patients were assigned either to a dropout group or a non-dropout group. In some cases it was unclear whether a patient dropped out of treatment or not, but yet this patient was assigned to one of the two groups. It may be recommendable to add more dropout categories (for example 'medical reasons', 'vacation', or 'logistical reasons') like in the study of Arnou et al. (2007), to get a clearer and more specified view of different kinds of dropout.

Furthermore, it was intended to take into account symptom severity, but this could not be attained due to too many lacking data (not only for the patients who dropped out of treatment) on questionnaires assessing symptom severity in advance of the treatment and after terminating treatment. Taking symptom severity into account might be helpful in further explaining dropout, since some studies have found a relationship between dropout and symptom severity (e.g. Chasson, Vincent and Harris, 2008), while others have not (e.g. Simons et al., 1984).

Finally, other limitations included the use of eclectic interventions instead of manualized interventions, so for intervention could not be controlled and no random assignment to the treatment, so for treatment could not be controlled as well.

Despite these limitations, the findings partly support the formulated ideas and provide suggestions for future study.

Conclusion

The present study was the first to explore differences on dropout between minority groups and first and second generation patients and to study possible contributors to dropout in minority groups. Although studies outside the Netherlands were able to do so, the present study was not able to show differences between ethnic minority groups in the Netherlands. Also, it was not able to show differences between first and second generation patients on dropout. It did show, however, that missing one or more therapy appointments and a lower attendance is related to dropout among Moroccan and Turkish patients and that a lower treatment intensity is related to dropout among Moroccan patients. It also showed that actual contributors to dropout differ among ethnic minorities: a contributor to dropout in one ethnic minority group is not necessarily a contributor to dropout in another minority group, as for example is the case of younger age in the Turkish minority group. Further research is recommended on ethnic differences on dropout and contributors to dropout within ethnic minorities. For now, based on the results of the present study, one would mainly plead for minimizing therapy absence in Moroccan and Turkish patients in order to prevent dropout from treatment.

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