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# Quality of care for anxiety and depression in different ethnic groups by family practitioners in urban areas in the Netherlands

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## ABSTRACT

**Objective:** There is widespread concern about access to good quality health care for ethnic minority groups. This study investigates differences between ethnic groups regarding prevalence of anxiety and depression, and adherence to treatment guidelines by family practitioners in urban areas in the Netherlands.

**Method:** Data from electronic medical records, collected for the Netherlands Information Network of General Practice. Diagnoses were based on the International Classification of Primary Care. Adherence to guidelines included at least five consultations, prescription of psychotropics for 6 weeks at most (indicative of cessation in case of nonresponse) or 5 months at least (suggesting continuation in case of response), and/or a referral to a mental health care specialist. Data were analyzed using multilevel logistic regression analyses.

**Results:** A total of 6413 patients (4.4% of practice population) were diagnosed with anxiety and/or depression. Prevalence was highest in Turkish patients (5.2%). Of diagnosed patients, 42.9% received guideline-concordant treatment. Only Surinamese/Antillean patients were less likely than ethnic Dutch to receive treatments according to guidelines.

**Conclusion:** Prevalence of and quality of care for anxiety and depression were comparable between ethnic minority clients, but some differences suggest that efforts to educate primary care providers in management of anxiety/depression should be continued and tailored to specific ethnic groups.

## 1. INTRODUCTION

Equal access to good quality care for patients, regardless of their ethnic backgrounds, can be considered a key characteristic of quality of care which is highly valued in Western countries [1,2]. As far as mental

health problems are concerned, there are serious concerns that neither equal access nor equal quality of care has been achieved for ethnic minority groups [3,4]. Moreover, an increasing part of the population in Western countries has a non-Western background which, according to some studies, is related to a higher occurrence of mental health problems [5,6]. This study focuses on ethnic differences in health care utilization for anxiety and depression — from here on referred to as common mental disorders (CMD) — in family practice.

More specifically, it addresses the possible differences between ethnic groups in the prevalence of CMD in family practice, as well as in the degree to which treatment guidelines for CMD are adhered to by practitioners.

CMD have a high prevalence in the general population and are associated with a high burden of disease [7,8]. In addition, effective treatment of CMD is possible [9–11], and the available evidence suggests that ethnic minority patients can be treated successfully with existing interventions [12,13]. Nevertheless, there are serious concerns that patients with an ethnic minority background are less likely to obtain treatment for CMD and are less likely to receive treatments according to professional guidelines [14–16]. There are various explanations why this may be the case. On the patient level, differences can be explained by predisposing, enabling and need factors [17,18].

Among predisposing factors are social structure characteristics (e.g., ethnicity, socioeconomic status and health literacy), health beliefs/attitudes (e.g., reluctance in reporting mental health problems) and demographic characteristics (age, gender). Enabling factors include the presence of (sufficient) care providers, but also personal enabling factors (e.g., income). Need factors can be divided into perceived/subjective need and evaluated/objective need for care [17,19–21]. With respect to family practitioners, limited interviewing skills, negative attitudes towards mental health issues, and a lack of awareness of and familiarity with treatment guidelines might play a role [22–24]. In a recent study, it was found that higher rates of guideline adherence were associated with stronger confidence in depression identification, less perceived time limitations and less perceived barriers for guideline implementation [25].

Yet, some studies have raised questions about whether formerly documented ethnic disparities in care for CMD in primary and specialty care settings still remain [26]. That is, the evidence on ethnic disparities in guideline adherence in the treatment of CMD is mainly derived from outpatient mental health care settings [16,27–29]; whether disparities between ethnic groups also exist in primary health care settings has been studied less often [26]. Moreover, some studies have shown similarities between ethnic groups regarding the recognition and/or treatment of mental health problems by family practitioners [20,30,31]. Finally, the available evidence comes mostly from studies conducted in the US and the UK. Consequently, the results have limited external validity to (other) European countries. This is, among other factors, related to variations between host countries in the historical background of migration to those countries, their definition of ethnic minority status and their health care systems (e.g., with or without family practitioners serving as gatekeepers for specialist care, and with or without mandatory health insurance).

This study is conducted in urban family practice in the Netherlands. Family practitioners in the Netherlands play a role as gatekeepers [32,33], meaning that patients need their referral to visit specialized health services. As a consequence, family practitioners are the most important caregivers to those who seek medical care and have a crucial role in the recognition of mental health problems and need for mental health. Compared with other European countries, the Netherlands have had a leading role in the development of evidence-based clinical guidelines and guidelines implementation research, as is the case for CMD [34–36]. The study was limited to practices in urban areas, which is where non-Western ethnic minority groups are best represented. Moreover, the prevalence of psychiatric disorders is significantly higher in urban areas [37].

The following questions were addressed: i. What is the (1-year) prevalence of CMD in family practice in urban areas, and are there ethnic differences in this respect? ii. Do ethnic groups vary with respect to the quality of care provided for CMD by family physicians? iii. To what extent do patient socioeconomic factors explain possible ethnic differences in the quality of care for CMD by family practitioners?

### 1.1. Hypotheses

i. Based on previous studies on the prevalence of CMD in the general population, mental health care utilization and detection of mental health problems by family practitioners, the prevalence of CMD in family practice was expected to be 2.9–4.8% [38–45].

Compared with ethnic Dutch patients, the prevalence was expected to be highest among Turkish patients due to a higher baseline prevalence in the general population [38,42,43].

ii. It was estimated that 27–50% of CMD clients would receive guideline-concordant treatment, in terms of follow-up, prescription of psychotropics and/or referral to specialized mental health care [36,46–49].

Turkish and Moroccan patients were expected to be least likely to receive guideline-concordant treatments. For example, previous studies from the Netherlands have established lower levels of education and perceived need for mental health care for Turkish and Moroccan inhabitants, which have been linked to nonadherence to guidelines for treatment of CMD in primary care [19,50].

iii. Although socioeconomic differences in health status and health care utilization have been found, it was anticipated that socioeconomic status (approximated by income) would play a limited role in this study, due to the egalitarian character of the Dutch health care system. That is, health services in the Netherlands are typically well accessible and largely free of charge, as a consequence of mandatory basic health insurance for all citizens. Nevertheless, we considered income as a potential confounder [2].

## 2. METHODS

### 2.1. Data: the Netherlands Information Network of

#### General Practice

In the Dutch health care system, citizens are enlisted as patients in one family practice (cf. UK). Thus, the population listed in a general practice can be used as the denominator in epidemiological studies. The Netherlands Information Network of General Practice (LINH) is a sentinel network of family practices and comprises a sample of 89 practices, representative for the Netherlands [51]. From these practices, routinely recorded data from electronic medical records are made available for research [52–56]. The data holds longitudinal information on consultations, diagnoses, prescriptions and referrals of approximately 350,000 patients who are listed in these practices. Data for the present study were collected in 2007. Practitioners participating in LINH record diagnoses and complaints using the International Classification of Primary Care (ICPC) [57], which is related to the ICD-10 [58,59]. Disease episodes were constructed for each ICPC-coded health problem, defined as all encounters for the management of the same specific health problem.

#### 2.2. Population registries

LINH contains patient information about date of birth, gender and postal code. With this information, data from LINH were linked to the Dutch population registry at Statistics Netherlands<sup>1</sup> (~80% of all patients in LINH could be retrieved in the population registry). From the registry, information was extracted on marital status, degree of urbanization, disposable household income and country of birth. Degree of urbanization is defined by Statistics Netherlands on the basis of ‘area address density’ (AAD), which is expressed in numbers of addresses per square kilometer. Statistics Netherlands divides municipalities into one of the following five AAD categories: (1) very highly urbanized (>2500 addresses/km<sup>2</sup>); (2) highly urbanized (1500–2500 addresses/km<sup>2</sup>); (3) moderately urbanized (1000–1500 addresses/km<sup>2</sup>); (4) low urbanization (500–1000 addresses/km<sup>2</sup>); and (5) rural (<500 addresses/km<sup>2</sup>) [60]. This study focused on practices situated in very highly urbanized areas, highly urbanized areas and moderately urbanized areas. In addition, disposable household income is the gross income of all household members minus paid income transfers, social contributions and taxes, subsequently adjusted for composition of the household and the number of household members and deflated with the consumer price index. The standardized household income, also termed purchasing power, is subsequently linked to individual household members [60]. Finally, using country of birth, Statistics Netherlands defines a first-generation migrant (e.g., Turkish) as a person who is born in Turkey and of whom at least one parent is born in Turkey as well. A person is a second-generation migrant (e.g., Turkish) if that person is born in the Netherlands and at least one parent is born in Turkey [60]. In this algorithm, the country of birth of the mother outweighs the country of birth of

the father. Subjects are considered ethnic Dutch if both his/her parents are born in the Netherlands, regardless of that person's country of birth.

### 2.3. Outcomes

#### 2.3.1. One-year prevalence of CMD

Based on previous research [36,61], patients attending family practice for 'depressive feelings' (ICPC code P03) and/or 'depressive disorder' (P76) were considered to be diagnosed with depression, while ICPC codes 'feeling anxious/nervous/tense' (P01) and/or 'anxiety disorder' (P74) were defined as 'anxiety'.

2.3.2. Guideline adherence in the treatment of CMD The definition of adherence to treatment guidelines for CMD was based on previous studies [36,47,61] and included sufficient follow-up consultations, short-term prescription of antidepressants, long-term prescription of antidepressants and/or a referral to a mental health care specialist.

Sufficient follow-up consultations were defined as at least five additional GP consultations within the same illness episode [61]. The original criterion was more strict (i.e., additional consultations had to take place within the first 15 weeks of the illness episode), but this information could not be included in the present study for practical reasons.

Prescriptions for medication in LINH are coded using the Anatomical Therapeutic Code/Defined Daily Dose (ATC/ DDD) system.<sup>2</sup> ATC codes for anxiolytics and antidepressants are N05B and N06A, respectively. One DDD is defined as the assumed average maintenance dose per day for a drug used for its main indication in adults. Regarding prescriptions, Dutch treatment standards recommend that after 6 weeks (at most) practitioners evaluate treatment effects in terms of symptom alleviation/worsening and/or the presence of side-effects. In case of no response the guideline advises treatment cessation. In case of sufficient response and no/acceptable side-effects, practitioners are, however, advised to continue prescribing. Consequently, short-term prescription of psychotropics was defined as prescription of antidepressants and anxiolytics during an episode of CMD for at most six subsequent weeks, equaling approximately 42 DDDs. This criterion [47] was originally more strict as well, since actual evaluation of the treatment progress (after 2 and 16 weeks, the latter only if the treatment worked) was a criterion that could not be checked with the current data.

Long-term prescription was defined as prescription of the same medications for at least five subsequent months, equaling approximately 150 DDDs. Data were available for 1 year (2007). Contacts that were related to episodes which started before 2007 or at the end of 2007 were taken into account in all calculations and analyses, but the health care delivered during these episodes was less likely to agree with treatment standards. For example, a CMD patient attending general practice in November 2007 was followed up for 2 months at most, so that it is unlikely that this patient received appropriate treatment in 2007 according to this definition.

Finally, referrals to a mental health specialist included referrals to psychiatrists, psychologists, institutions for community-based mental health care, social services, centers for alcohol and drugs, psycho-geriatricians and socialpsychiatric nurses. Additionally, referrals for 'feeling anxious/ nervous/tense' (ICPC code P01), 'acute stress reaction' (P02), 'feeling depressed' (P03), 'feeling/behaving irritable/angry' (P04), 'anxiety disorder/anxiety state' (P74), 'somatization disorder' (P75), 'depressive disorder' (P76) or 'neurasthenia/surmenage' (P78) were regarded as adequate as well.

#### 2.4. Analyses

One-year prevalence rates were calculated for anxiety and/or depression. Estimates were calculated separately for ethnic groups. If more than one episode per person per year was labeled with these ICPC codes, only one was counted.

The proportion of CMD episodes with guideline-concordant treatment was calculated, also separately for ethnic groups.

Multiple logistic regression analyses were conducted to study whether possible ethnic differences in guidelineconcordant treatment for CMD were related to sociodemographic (gender, age, marital status) or socioeconomic factors (disposable family income). Inter-practice variation was taken into account by conducting a multilevel analysis in MlwiN [48]. Analyses were limited to the main ethnic groups in the Netherlands, i.e., ethnic Dutch, Moroccan, Turkish, Surinamese and Antillean patients. In all

comparisons, ethnic Dutch were the reference group. Due to the small numbers of Antillean patients, these were combined with the Surinamese group.

[TABLE 1][TABLE 2][TABLE 3]

### 3. RESULTS

Depression was prevalent among 2.5% of the urban LINH population, anxiety among 2.2% and CMD among 4.4% (Table 1). There were ethnic differences in the prevalence of depression and — by implication — CMD, but not in the prevalence of anxiety. More specifically, the prevalence of CMD was significantly higher in the Turkish group and lower in the Surinamese/Antillean group in comparison with the ethnic Dutch group. The regression analysis indicated that, when taking into account age and gender, the proportion of CMD was still significantly higher in the Turkish subgroup than in the ethnic Dutch subgroup, but lower among Surinamese/Antillean clients compared with ethnic Dutch. The difference with the Moroccan subgroup was not statistically significant.

Among CMD patients there were no ethnic differences in gender, but ethnic minority patients were younger than ethnic Dutch (Table 2). Turkish and Moroccan patients were more often married or living together than ethnic Dutch, while Surinamese/Antillean patients were less often married.

Income levels were lower among ethnic minority patients, with the lowest income levels for Moroccans. Patients were equally likely to have five or more follow-up consultations.

Surinamese/Antillean clients were less likely to receive both short- and long-term prescription of antidepressants; Moroccan patients were less likely to receive long-term prescriptions. Ethnic minority patients were more frequently referred to a mental health care specialist. Guideline-concordant treatment, determined by the presence of at least one of the aforementioned treatment characteristics, was delivered less often to Surinamese/Antillean clients as compared to ethnic Dutch clients.

Taking into account gender, age, marital status, income and inter-practice variation, Surinamese/Antillean patients with a CMD were less likely to receive short- and long-term prescription for antidepressants (Table 3). Other differences, which were previously statistically significant in Table 2, were no longer statistically significant when confounding variables were taken into account. There were nevertheless statistical trends ( $P < .10$ ) pointing at more short-term prescriptions of psychotropics among Turkish ( $OR = 0.33$ , 95%  $CI = 0.96-1.85$ ) and more referrals to mental health care (MHC) specialists among Moroccan patients ( $OR = 1.76$ , 95%  $CI = 0.99-3.15$ ). None of the differences between ethnic groups were related to income levels.

### 4. DISCUSSION

This study investigated ethnic differences regarding the prevalence and management of CMD in a representative sample of family practices in urban areas in the Netherlands.

It showed that CMD were diagnosed among 4.4% of the total patient population, which was well within the anticipated range (2.9–4.8%) [38–45]. As predicted, the prevalence was highest among Turkish patients when compared with ethnic Dutch patients [38,42,43]. Approximately 40% of patients diagnosed with a CMD received a treatment according to clinical guidelines, which was within the hypothesized range of 27–50% [36,46–49] and generally higher than reported in some international studies (19–30%) [9,62–64]. There were no differences between ethnic Dutch, Turkish and Moroccan patients in the extent to which their GPs adhered to clinical guidelines. In case of Surinamese/Antillean patients, GPs were less likely to follow guidelines compared to ethnic Dutch patients.

Thus, the results of this study do not support the general idea that non-Western ethnic minority patients are less likely to receive guideline-concordant care for CMD. And as such, these results are quite in line with several other recent studies from the Netherlands, which paint a more optimistic picture regarding ethnic minority patients in mental health care [65–68]. Without thus trying to ignore the statistically significant unfavorable associations which we did find, we believe it is important to acknowledge that the Netherlands — like many other Western countries — nowadays has a considerable history of adapting (mental) health services to suit clients from different cultures [69,70]. Possibly, the present findings should be viewed in this perspective. In addition, migrant populations may have developed as well (e.g., in terms of

acculturation, education), so that the role of traditional barriers like stigma and taboo in help-seeking behavior may have become smaller than is usually suggested [71]. At least for Turkish and Moroccan migrants in the Netherlands, the latter is also supported by findings from Knipscheer and Kleber [72].

Nevertheless, one might argue that the prevalence of CMD in family practice was still relatively low for the Turkish population. That is, a population-based study using structured interviews found that Turkish subjects in the general population of Amsterdam were twice as likely to meet DSM-IV criteria for CMD in the past year [38]. The difference between Turkish and ethnic Dutch patients in our study was much smaller, and if the estimates as presented by de Wit et al. [38] are correct, this may indicate underdiagnosis of CMD among Turkish patients. Following the same reasoning, we found no indications for underdiagnosis of CMD within the Moroccan and Surinamese/Antillean subpopulations. Possible underdiagnosis of CMD among Turkish patients could be a result of (a combination of) patient- and practitioner-related factors acting at different stages of the help-seeking process [19–23]. That is, only some individuals who have a mental illness will decide to seek help and go to see a GP [18]. These individuals, or cases, then have to be detected and diagnosed as such, and diagnosed cases will have to be registered in a database [24].

As stated before, we only examined the quality of treatment for patients with CMD who found their way to the practice and who had been diagnosed with CMD. We performed a post hoc analysis to examine whether there may have been differences in consultation behavior and how these might have affected the prevalences reported in this study. It turned out that patients with an ethnic minority background were significantly more likely to consult a GP in 2007, but the exact proportions for the total general practice population were comparable between ethnic groups (data not shown).

Thus, when we recalculated the prevalence of CMD using only the population of patients who attended general practice in 2007, differences between ethnic groups remained essentially the same. Although strictly speaking this says very little about ethnic differences in consulting behavior within the general CMD population, one may conclude that the influence of differential consulting behavior by ethnic groups was limited. Still, it is important that this issue is investigated further, which is illustrated by Comino et al. [30]. They found that, once a case of CMD was detected by the GP, there were only minor differences between ethnic groups regarding the management of CMD by family practitioners. As Comino et al. [30] put forward, underdetection among ethnic minority groups is sometimes the only barrier to good quality care in family practice [30].

However, we did find that Surinamese/Antillean patients were less likely than ethnic Dutch patients to be treated according to guidelines, particularly with respect to psychotropic drug prescription. Socioeconomic status appeared not to play a role, considering that controlling for income did not influence the results. Some disparities were observed for the Turkish and Moroccan patient populations, but these could be explained by demographic factors. It is important to consider the implications of this finding, because to date there has been no reason to believe that the (pharmacologic) treatment of CMD should be different for different ethnic groups [12,73]. We considered several explanations for our finding. First, there may be cultural differences between ethnic groups regarding the acceptance of pharmacological treatment for mental health problems [21], although it is uncertain to what extent Surinamese/Antillean patients differ from Turkish and Moroccan patients in that respect [49,74]. Alternatively, family practitioners may find clinical guidelines too illness specific for Surinamese/Antillean patients and difficult to apply because of multimorbidity [75]. Yet, this explanation may not hold, since it was previously found that depressed patients who suffered from chronic somatic (e.g., diabetes) or psychiatric comorbidity (e.g., sleep disturbance) were in fact prescribed more psychotropics [76]. Finally, it could be that GPs are more reluctant to prescribe psychotropics to Surinamese/Antillean patients for reasons of contraindications and are therefore less likely to follow the guidelines [77]. This may concern Surinamese/Antillean patients more often than other ethnic groups, because the total amount of prescription medication appears to be highest within the Surinamese population, compared with other ethnic groups [78]. Further exploration of the validity of these explanations is recommended.

#### **4.1. Strengths and limitations of the study**

The most important strength of this study is the availability of a large dataset with registration data from a nationally representative network of family practices in urban areas. In addition, data could be linked to the population register, so that information about family income and country of birth was available. Third,

self-report data in studies on quality of CMD care can be biased, considering that CMD are motivational disorders that often result in negative thinking. Registration data do not have this limitation. Finally, this study was about the quality of treatment, measured as the extent to which practitioners adhered to treatment standards. To measure this, we applied quality indicators that had been validated previously [36,47].

However, this study also has a number of limitations.

Firstly, quality indicators were previously validated, but they were slightly adjusted due to limitations of the data, which may have influenced the results. Secondly, as we have mentioned before, the limited time frame for this study (1 year) most likely resulted in an underestimation of the actual number of patients who received guideline-concordant treatments. However, it is important to note that any underestimation is likely to be similar for all ethnic groups, so that comparisons between ethnic groups are still valid.

Thirdly, prescription data do not reflect actual use, as a consequence of nonadherence to treatments, and compliance with prescribed medication by Turkish and Moroccan patients is suggested to be suboptimal [79]. Fourthly, thirdgeneration migrants could not be identified and were categorized as ethnic Dutch. Although birth country and years of Dutch acculturation thus may have been confounded with ethnicity, we found no evidence for this in the current dataset. That is, post hoc analyses (results not shown) revealed no statistically significant interaction between ethnic background and being foreign born vs. second generation in relation to receiving guideline-concordant treatment.

Furthermore, the link between LINH and the population registers was somewhat less successful for firstgeneration migrants, because their exact date of birth was missing more often. Finally, the population of Antillean patients was very small and was therefore merged with the Surinamese group. We are aware that the resultant Surinamese/ Antillean subgroup is ethnically quite diverse. In fact, previous studies have established important differences even within the Surinamese population [i.e., between Hindus (Indian descent) and the Creoles (African descent)] regarding health and health care behavior, for example, with respect to psychiatric morbidity and suicidal behavior [80–82].

#### **4.2. Conclusion**

The quality of treatment among subjects diagnosed with CMD in Dutch general practice was quite comparable between ethnic groups. However, there were indications that cases of CMD are detected and/or diagnosed less often among Turkish patients, while Surinamese/Antillean patients with CMD may be less likely to receive medical treatments that correspond with evidence-based recommendations.

While this indicates that it is important to continue our efforts to educate primary care providers in areas of CMD detection and management, variations like these also suggest that these efforts should be tailored to the background of specific ethnic minority groups.

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## TABLES

Table 1

One-year prevalence of depression and/or anxiety (CMD) in general practice in Dutch urban areas, according to ethnic background<sup>a</sup>

	<i>n</i>	Depression (%)	Anxiety (%)	CMD <sup>b</sup> (%)	OR <sub>CMD</sub> <sup>c</sup>	95% CI <sup>d</sup>
Total	147,109	2.49	2.18	4.43		
Ethnic Dutch	131,690	2.52	2.19	4.47	1.00	–
Moroccan	3458	2.54	2.00	4.25	1.18	1.00–1.40
Turkish	4884	3.28	2.23	5.22	1.40	1.23–1.60
Surinamese/Antillean	7077	1.41	1.98	3.24	.79	0.69–0.91
Chi-square value ( <i>df</i> )		46.7 (3)***	2.1 (3)	31.8 (3)***		

<sup>a</sup> Overall ethnic differences were tested with chi-square tests (\*\*\* $P < .001$ ). Post hoc comparisons were done using logistic regression analysis, with ethnic differences corrected for age and gender.

<sup>b</sup> Depression and/or anxiety.

<sup>c</sup> Odds ratio for a diagnosis for a common mental disorder, corrected for age and gender (ethnic Dutch are reference group).

<sup>d</sup> Confidence interval.

Table 2

Sociodemographic and treatment characteristics of LINH population 2007 with CMD<sup>a</sup>

	Total ( <i>N</i> =6413)	Ethnic Dutch ( <i>n</i> =5788)	Moroccan ( <i>n</i> =146)	Turkish ( <i>n</i> =251)	Surinamese/Antillean ( <i>n</i> =228)	Chi-square or <i>F</i> statistic ( <i>df</i> )	<i>P</i> value
Gender							
% female	69.3	69.1	67.1	72.5	72.8	3.0 (3)	.389
Age							
Mean±S.D.	51.8±18.5	53.2±18.6	35.7±9.3***	38.7±11.3***	42.7±13.6***	114.1 (3)	<.001
Marital status							
% Married, living together	42.4	41.6	58.9***	64.5***	27.6***	88.7 (3)	<.001
Disposable income <sup>b</sup>							
Mean±S.D. <sup>c</sup>	20.1±12.2	20.5±12.6	14.8±5.1***	16.3±6.0***	17.1±7.5***	24.6 (3)	<.001
Five follow-up consultations							
% Yes	7.7	7.8	7.6	6.8	7.5	0.5 (3)	.915
Antidepressants short-term							
% Yes	34.2	35.1	31.5	29.9	17.1***	34.4 (3)	<.001
Antidepressants long-term							
% Yes	13.3	14.0	8.2*	10.4	3.5***	26.4 (3)	<.001
Referral to a MHC specialist <sup>d</sup>							
% Yes	7.8	7.3	14.4**	12.0**	11.4*	21.2 (3)	<.001
Appropriate treatment <sup>e</sup>							
% Yes	42.9	43.5	41.8	41.8	31.1***	13.8 (3)	.003

<sup>a</sup> Means were tested with ANOVA, proportions with chi-square tests. Pairwise post hoc comparisons were done using Tukey's and Mann-Whitney tests (\* $P < .05$ , \*\* $P < .01$ , \*\*\* $P < .001$ ). The reference group was always 'ethnic Dutch'.

<sup>b</sup> Disposable family income corrected for differences in household size and composition.

<sup>c</sup> In units of €1000.

<sup>d</sup> MHC=Mental health care.

<sup>e</sup> At least five follow-up consultations, and/or short-term prescription of antidepressants, and/or long-term prescription of antidepressants, and/or a referral to a MHC specialist.

Table 3  
Adequate treatment<sup>a</sup> of CMD in Dutch urban general practice in 2007

	OR	95% CI
Five follow-up consultations		
Moroccan <sup>b</sup>	0.89	0.42–1.85
Turkish <sup>b</sup>	0.62	0.35–1.08
Surinamese/Antillean <sup>b</sup>	0.77	0.44–1.36
Antidepressants short-term		
Moroccan <sup>b</sup>	1.04	0.70–1.56
Turkish <sup>b</sup>	1.33	0.96–1.85
Surinamese/Antillean <sup>b</sup>	0.53*	0.36–0.78
Antidepressants long-term		
Moroccan <sup>b</sup>	0.59	0.31–1.14
Turkish <sup>b</sup>	0.91	0.58–1.44
Surinamese/Antillean <sup>b</sup>	0.30*	0.14–0.63
Referral to a MHC specialist		
Moroccan <sup>b</sup>	1.76	0.99–3.15
Turkish <sup>b</sup>	0.88	0.56–1.39
Surinamese/Antillean <sup>b</sup>	1.16	0.72–1.88
Adequate treatment <sup>a</sup>		
Moroccan <sup>b</sup>	1.06	0.73–1.54
Turkish <sup>b</sup>	1.09	0.75–1.59
Surinamese/Antillean <sup>b</sup>	0.70*	0.51–0.96

<sup>a</sup> At least five follow-up consultations, *and/or* short-term prescription of antidepressants, *and/or* long-term prescription of antidepressants, *and/or* a referral to a mental health care specialist.

<sup>b</sup> Ethnic Dutch were the reference group in all comparisons. Differences were analyzed using multilevel logistic regression analysis, taking into account differences in gender, age, marital status, income and inter-practice variation (\* $P < .05$ ).