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# The association between ethnic background and characteristics of first mental health treatment for psychotic disorders in the Netherlands between 2001 and 2005

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**Abstract**

*Purpose* To test the hypothesis that ethnic minority status of patients is associated with specific psychotic disorder treatment characteristics.

*Methods* Longitudinal data (2001–2005) were extracted from a nationwide psychiatric case register in the Netherlands. The sample consisted of 30,655 episodes of mental health treatment for 23,122 patients with psychotic disorders. Information was available about waiting time and treatment duration, source of referral, occurrence of crisis contacts, admittance to clinical care and compulsory admissions. In addition, information was available about ethnicity (based on country of birth), gender, age and marital status. Results were calculated for ethnic and gender groups separately. In addition, a number of multivariate regression analyses were conducted to correct for differences in age and marital status.

*Results* There was substantial variation between ethnic minority and gender groups in relation to the treatment characteristics. Compared with a Dutch ethnic background, ethnic minority background was generally associated with less waiting time, and more police referrals, crisis contacts, admittance to clinical care and compulsory admission, but shorter treatment duration. Characteristics appeared to be least favorable in episodes that involved male patients with Antillean and Surinamese backgrounds, whereas episodes were quite similar for ethnic Dutch and Turkish patients.

*Conclusions* Characteristics of mental health treatment for psychosis in the Netherlands are different for ethnic minority patient groups than for patients with an ethnic Dutch background. However, there were substantial differences between ethnic minority groups.

**Keywords** Ethnicity · Psychotic disorders · Treatment characteristics · Pathways into mental health care

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## Introduction

Patients with psychotic disorders often have a substantial history in mental health care before diagnosis and first treatment of psychosis [1–4]. In addition, a considerable number of psychotic patients may enter the mental health care system in unfavorable ways (e.g., delayed, via the police/justice system and/or through compulsory admission) [5, 6]. Unfavorable pathways into professional health care have been connected to poorer treatment outcomes in psychotic disorders [7–9]. What is more, numerous studies have linked the same characteristics to a non-western ethnic minority background of patients [10]. For example, Morgan et al. found that African–Caribbean and Black African patients in the UK were less likely to access care through a general practitioner (GP), whereas they were more likely to access care through a criminal justice

agency and to be compulsorily admitted at first contact with services, independent of service setting [11, 12].

However, the empirical evidence on the role of ethnic background is conflicting, as some studies concluded that disparities were absent, or smaller than anticipated [13–21]. For example, Morgan et al. found that Black patients in the UK with a psychotic mental illness did not experience longer treatment delays prior to first contact with services than White British patients [20]. Ghali et al. [10] found that duration of untreated psychosis (DUP) was longer in White British patients compared with most other groups. An additional complication is that studies on this topic are often conducted in the US and the UK. The external validity of these studies regarding health care settings in (other) European countries is uncertain, considering the variation between countries with respect to health care and criminal justice systems [2], and the historical and cultural background of migration to the host countries. Still, two Norwegian studies were able to link migrant status with first mental health treatment [22, 23].

This study sought to investigate possible differences between ethnic groups regarding characteristics of first mental health treatment for psychotic disorders in the Netherlands. The largest non-western ethnic minority groups in the Netherlands are from Turkey, Surinam, Morocco and the Dutch Antilles (Aruba, Bonaire, Curacao) [24]. Labor migration from Turkey and Morocco started in the mid-1960s and nowadays migrants from both countries are among the main non-western migrant populations in Europe. During a more recent immigration peak in the mid-1970s, citizens from Surinam and the Antilles migrated to the Netherlands as well. The latter two are former Dutch colonies and its inhabitants are consequently more proficient in the Dutch language than (first generation) Turkish and Moroccan migrants. This may be relevant as there is some evidence for an association between proficiency of the host country's language and access to mental health care services [25]. Similar to the UK, the Netherlands have a referral system, in which patients must visit a GP before consulting a medical specialist [24]. GPs, therefore, have to recognize a condition before they may decide to refer a patient to specialized services. In urgent, acute cases, this route may be bypassed. Specialized mental health care is delivered both by institutions or by independently operating psychologists, psychotherapists and psychiatrists. Before 2006, there were generally fewer financial barriers to receive specialized mental health care in the Netherlands, which is now financed by mandatory medical insurance [26].

Previous research from the Netherlands found that the incidence and prevalence of psychotic disorders among first- and second generation immigrants from Morocco, Surinam and other non-Western countries are higher than among ethnic Dutch, with second generation immigrants showing higher risks than those of the first generation [27–30]. The likelihood of receiving psychiatric treatment for psychotic disorders shows a similar pattern [31]. For example, de Wit et al. [33] found that the incidence of first acute compulsory admission in Amsterdam for psychotic disorders in particular showed a twofold to threefold increase in almost all migrant groups from non-western countries, especially second generation migrants. Other studies have also found that (non-Western) immigrants are generally more likely to experience longer DUP and come into contact with care for psychotic disorders through psychiatric emergency services, or through (acute) compulsory admissions [32–35]. However, there are differences between ethnic minority groups. Mulder et al. [35] reported that adverse pathways to psychiatric care and delayed help seeking were found among Dutch Antilleans, but not among immigrants from Turkey, Morocco or Surinam. Furthermore, de Wit et al. [33] observed that the relative risk of acute compulsory admission for psychotic disorders among Moroccan migrants was lower than expected on the basis of incidence studies.

In summary, the purpose of this study was to test the hypothesis that the ethnic minority background of patients would be associated with specific treatment characteristics for psychotic disorders. In addition, we tested the hypothesis that there would be considerable inter-ethnic variation, defined as statistically significant differences in treatment characteristics observed in separate ethnic groups.

## Methods

### Data source

Data were derived from ZORGIS, a national psychiatric case register that contains data on mental health care consumption from the period 2001–2005 [26]. ZORGIS contains clinical data from daily practice. As patients are not treated according to a particular protocol, the Dutch law on Medical Research allows the use of ZORGIS data for purposes of scientific research without a signed informed consent from patients. Privacy of patients is ensured by the application of encoded patient numbers and the reporting of results only on aggregated levels.

Based on the number and type of institutions that provided data, ZORGIS is estimated to cover 75 % of the production of general secondary mental health care for adults between 2001 and 2005 [26]. In the Netherlands, treatment of psychotic patients predominantly takes place in these types of settings. Data from institutions for addiction care, juvenile care, protective housing and forensic psychiatric institutions are incomplete in ZORGIS

and therefore excluded from this study. Independently operating mental health professionals (i.e., psychologists, psychotherapists and psychiatrists) did not provide data for ZORGIS at all. However, treatment of schizophrenia in private practices is virtually non-existent in the Netherlands [30].

The primary unit of analysis in ZORGIS is an episode of care, which represents the time between registration of a patient at an institution for a particular mental health problem and the final contact of the patient with that institution. A new episode starts when an individual registration is renewed, i.e., if a patient re-enters mental health care after 3 months without receiving any care or if a patient changes providers. Each registration is labeled with a DSM-IV diagnosis.

### Study sample

In the period 2001–2005, a total number of 914,193 adult patients (18–65 years) received some form of general mental health care, corresponding with 1.257.436 separate registrations, or episodes. Between 2001 and 2005, there were 41,949 patients with known psychotic disorders, defined as schizophrenia (DSM-IV codes 295.1, 295.2, 295.3, 295.6, 295.9), schizophreniform disorder (295.4), schizoaffective disorder (295.7), delusional disorder (297.1), brief psychotic disorder (298.8), shared psychotic disorder (297.3) psychotic disorder due to medical condition (293.81, 293.82), psychotic disorder NOS (298.9).

Compared with other patient groups, patients with psychotic disorders had many registrations/episodes, namely 56,784 for a psychotic disorder and 32,539 for another (or unknown) psychiatric disorder. Explanations are that a large share of patients with psychotic disorders (45 %) were already in care on January 1, 2001 and were more likely to experience crisis contacts and transfers to other treatment locations, in contrast to other patient groups.

To describe treatment characteristics, the focus were patients with psychotic disorders who, to the best of our knowledge, did not receive mental health treatment prior to 2001. That is, it cannot be ruled out that some patients did receive care for psychotic disorders before 2001, only not captured by the ZORGIS database. In total, 23,122 patients were selected. During 2001–2005 those patients were 30,655 times registered for a new episode of psychotic disorders. Registrations for a new treatment of these patients for other disorders were excluded from this study.

### Outcomes

Six treatment characteristics were selected:

1. The proportion of episodes with less than 24 h between registration and the first treatment contact (waiting time).
2. Time (in days) between registration and the final treatment contact (episode length).
3. The proportion of episodes which started after a referral by mental health care parties, GPs, police or other sources.
4. The proportion of episodes that included crisis contacts, with a distinction between crisis contacts in the first month and/or thereafter.
5. The proportion of episodes that involved admittance to clinical care; with a distinction between start of clinical care in the first month and thereafter.
6. The proportion of episodes with at least one compulsory admission.

### Predicting variables

In conformation with Statistics Netherlands, the definition of ethnic background was based on country of birth [36]. Statistics Netherlands defines a person as 'non-Dutch' either (1) if he/she was born abroad, (first generation) unless both parents are born in the Netherlands or (2) if at least one of both parents was born abroad (second generation migrant). If both parents of the respondent are born in the Netherlands, respondents are defined as ethnic Dutch. Third generation immigrants (i.e., with parents born in the Netherlands, but with grandparents born abroad) are included in the group of 'ethnic Dutch'. Furthermore, persons with a non-Dutch background can be classified as western or non-western, whereby the category 'western' consists of persons from Europe (e.g., neighboring countries Germany and Belgium), North America, Oceania, Japan and Indonesia (including the former Dutch East Indies). The latter two groups are classified as western based on their socioeconomic position in the Netherlands: persons with an Indonesian background are mainly persons (with parent(s)) originating from the former Dutch East Indies. Persons with a Japanese background are mostly employees of Japanese companies and their families. Non-western persons have a Turkish, African, Asian and Latin-American background, including (refugees from) Iraq and Afghanistan [37]. The strict application of this definition and assessment of specific ethnic background (e.g., 'Turkish') and 'generational status' (e.g., first generation migrant) was hampered by missing information on the country of birth of patients' parents. Hence, ethnicity was calculated with an algorithm using best available evidence [26], based on the assumption that missing information is a consequence of time constraints in daily practice rather than patients' ethnic backgrounds. In short, if the mother's

origin was unknown, knowing the father's origin sufficed to determine the patient's ethnic origin, and vice versa. If both origins were known, the country of birth of the mother outweighed the country of birth of the father. If both origins were unknown, only the patient's country of birth was enough. In addition, information was available about gender, age (calculated at the start of the first episode) and marital status [38].

## Analysis

Treatment characteristics were calculated for ethnic and gender groups separately. Gender was taken into account in addition to ethnicity as a consequence of (1) overrepresentation of male patients and (2) gender differences in health care consumption. Ethnic differences were tested in two steps. First, Chi-square ($\chi^2$) tests were done to check for overall differences between ethnic groups, except in case of "Treatment duration" (with ANOVA after log-transformation of the outcome variable). For Pearson's Chi square to be valid, it was checked and confirmed that the data met the basis underlying presumptions, i.e., of an expected cell count of at least 5 in all cells (of a 2-by-2 table; 5 or more in 80 % of cells in larger tables) and no cells with an expected count of less than 1. Chi square and ANOVA were used to check for overall ethnic differences. The second step was to use regression techniques to make comparisons between ethnic Dutch on the one hand and specific ethnic minority groups on the other (logistical regression in all outcome measures but episode length). As a result, effect sizes were calculated, which were also corrected for confounding by gender (stratified analysis) and age/marital status (multivariate analyses). All analyses were done in SPSS (Statistical Package for Social Sciences), version 21.0 for Windows.

## Results

In total, 30,655 episodes were included (Table 1). There were statistically significant differences between ethnic groups regarding gender ($\chi^2 = 418.7$, $df = 7$, $p < 0.001$), age ($F = 134.8$, $df = 7$, $p < 0.001$) and marital status ($\chi^2 = 310.3$, $df = 7$, $p < 0.001$). Male patients were overrepresented, even more so among patients with an ethnic minority background. At the time of registration, patients with an ethnic minority background were also significantly younger than ethnic Dutch patients. In addition, Antillean and Surinamese patients were married less often than ethnic Dutch patients, while Moroccan and Turkish patients were married significantly more often.

If episodes involved ethnic minority groups waiting times were more likely to be shorter than 24 h than if

episodes involved ethnic Dutch (Table 2). This was valid for both men ($\chi^2 = 241.7$, $df = 7$, $p < 0.001$) and women ($\chi^2 = 126.5$, $df = 7$, $p < 0.001$). However, multivariate regression showed that regarding specific ethnic minority backgrounds, differences between episodes implicating ethnic Dutch and Antillean, Turkish or Moroccan female clients were not statistically significant.

Compared with episodes that included ethnic Dutch patients, the length of episodes was generally shorter if they involved patients with ethnic minority backgrounds, both among males ($F$ value = 48.2, $df = 7$, $p < 0.001$) and females ($F$ value = 20.1, $df = 7$, $p < 0.001$). Moreover, there was inter-ethnic variation. Among the main ethnic groups, multivariate regression indicated that treatment duration was shortest if episodes involved Antillean patients (males) and Surinamese/Moroccan patients (females).

Table 3 indicates that a large number of mental health care episodes for psychotic disorders—31.3 % (males) and 27.7 % (females)—was initiated by a mental health care professionals. Likewise, GPs were an important source of referrals; 25.5 % (males) and 34.4 % (females) of the episodes commenced via this route. However, there were overall differences between ethnic groups regarding the source of referral, both among men ($\chi^2 = 706.8$, $df = 35$, $p < 0.001$) and women ($\chi^2 = 451.9$, $df = 35$, $p < 0.001$). Specifically regarding police referrals (versus other types of referral), multivariate logistic regression indicated that among male patients, virtually all patients with an ethnic minority background entered mental health care via the police more often than ethnic Dutch. An exception were Turkish patients, who were referred by the police about as often as ethnic Dutch. Among females, Surinamese patients and other (non-)western patients were more often referred by the police.

It can be derived from Table 4 that crisis contacts occured in 51.2 % (males) and 53.2 % (females). The table also indicates that if a crisis contact occurred, it most likely took place during the first month of an episode. In 12.6 % (men) and 11.4 % (females) of all episodes, a crisis contact in the first month was the only mental health care contact of the patient in question. There were small but statistically significant differences between ethnic groups, both among men ($\chi^2 = 639.3$, $df = 35$, $p < 0.001$) and women ($\chi^2 = 341.3$, $df = 35$, $p < 0.001$). Odds ratios indicated that crisis contacts, regardless in which month, were more likely to occur in episodes registered for Surinamese, Moroccan and other (non-)western clients compared with episodes involving ethnic Dutch (males). Among females, differences in episodes with crisis contacts were only statistically significant between other non-western clients and ethnic Dutch.

Table 5 describes in which proportion of episodes a clinical contact occurred. It shows that clinical care, if

**Table 1** Demographic characteristics of treatment episodes for psychotic disorders in the period 2001–2005

|  | All | Ethnic Dutch | Antillean | Surinamese | Moroccan | Turkish | Other non-western | Other western | Ethnicity unknown |
|---|---|---|---|---|---|---|---|---|---|
| N | 30,655 | 17,714 | 426 | 1328 | 1241 | 697 | 1979 | 1840 | 5430 |
| Gender |  |  |  |  |  |  |  |  |  |
| Male (%) | 61.9 | 59.6 | 76.1 | 66.6 | 82.0 | 71.4 | 70.6 | 60.9 | 58.5 |
| Sign. | – | – | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.259 | 0.164 |
| Age (mean ± SD) | 36.5 ± 11.8 | 37.2 ± 12.0 | 34.0 ± 10.3 | 35.1 ± 10.9 | 31.3 ± 9.0 | 31.5 ± 8.9 | 32.2 ± 9.9 | 35.6 ± 11.2 | 38.7 ± 12.2 |
| Sign. | – | – | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Marital status |  |  |  |  |  |  |  |  |  |
| Married (%) | 14.5 | 14.6 | 7.3 | 6.2 | 21.4 | 31.3 | 11.9 | 13.5 | 14.3 |
| Sign. | – | – | <0.001 | <0.001 | <0.001 | <0.001 | 0.001 | 0.196 | 0.558 |

Proportions were tested with Chi-square tests (post hoc logistic regression), means with ANOVA (post hoc linear regression), each time with the ethnic Dutch as the reference group

registered, was more likely to mark the start of an episode, although again there were differences between ethnic groups among both men ($\chi^2 = 257.7$, $df = 14$, $p < 0.001$) and women ($\chi^2 = 148.8$, $df = 14$, $p < 0.001$). Odds ratios for any form of clinical care indicated that clinical care occurred more often in episodes involving male patients with Antillean and other (non-)western backgrounds, but less often in episodes with Moroccan male patients. Among females, differences were only statistically significant for episodes with Turkish/Moroccan patients. Similar to males, they experienced clinical care less often than ethnic Dutch.

Finally, ethnic differences with respect to compulsory admissions were statistically significant as well, among both men ($\chi^2 = 199.5$, $df = 7$, $p < 0.001$) and women ($\chi^2 = 99.1$, $df = 7$, $p < 0.001$). In general ethnic minority groups more often had a compulsory admission. However, odds ratios indicated that among the main ethnic groups, statistically significant differences were absent between episodes involving Moroccan and ethnic Dutch clients (men). Differences were not statistically significant either for episodes involving Surinamese, Turkish or Moroccan female clients compared with episodes registered for ethnic Dutch clients. Among patients from the main ethnic groups, compulsory admissions were most likely to occur in episodes involving Surinamese (males) and Antillean patients (males/females).

## Discussion

This study aimed to address possible ethnic differences in characteristics of treatment episodes involving patients with psychotic disorders who were registered for the first time. Data were derived from a national psychiatric case register in the Netherlands. Despite substantial variation between ethnic minority groups, ethnic background was generally associated with less waiting time, and more police referrals, crisis contacts, admittance to clinical care and compulsory admission, but shorter treatment duration.

Although the (incomplete) registration of the urgency of the first contact (as estimated by the source of referral, data not shown) could not confirm so, the result that patients with an ethnic minority background more often had waiting times shorter than 24 h suggests that the first contact may have been more urgent when episodes involved patients with ethnic minority backgrounds. For example, crisis contacts occurred more often in episodes involving ethnic minority groups, especially in the first month. If one also takes into account that patients with an ethnic minority background were less likely to be referred by a GP and more likely to reach mental health services via the police, the current results appear to be in line with recent findings from the UK [10, 39]. Ghali et al. [10] found that White British patients were more likely to experience treatment delays than Black and minority ethnic (BME) patients. Although the UK studies focused on delayed treatment (i.e., duration of untreated psychosis or DUP), the explanation provided by the authors concur with our data. That is, they suggest that shorter waiting times might be indicative of non-western patients whose symptoms, at the time of referral, had worsened to a point that regular treatments were no longer an option. By implication, this may have accelerated the process of intake and treatment in specialized mental health care (shorter waiting times after referral) and increased the need for police involvement or compulsory admissions. In agreement with this, van der Post et al. [34] found that "police referral rather than referral by a GP", and "being diagnosed with a psychosis"

**Table 2** Characteristics of treatment episodes for psychotic disorders in the period 2001–2005: waiting times ≤24 h and episode length

| | N | Waiting time ≤24 h (%)[a] | OR (95 % CI)[b] | p value | Episode length in days (mean, SD)[c] | B[b] | 95 % CI | | p value |
|---|---|---|---|---|---|---|---|---|---|
| **Male** | | | | | | | | | |
| All | 18,971 | 42.0 | – | | 95.9 (10.7) | – | | | |
| Ethnic Dutch | 10,552 | 37.4 | – | | 118.9 (9.7) | – | | | |
| Antillean | 324 | 49.7 | 1.61 (1.29–2.01) | <0.001 | 67.5 (10.1) | −0.22 | −0.33 | −0.11 | <0.001 |
| Surinamese | 885 | 49.8 | 1.62 (1.41–1.86) | <0.001 | 76.6 (12.0) | −0.17 | −0.24 | −0.10 | <0.001 |
| Moroccan | 1017 | 40.9 | 1.19 (1.04–1.36) | 0.010 | 98.9 (9.7) | −0.09 | −0.16 | −0.03 | 0.005 |
| Turkish | 498 | 43.6 | 1.39 (1.16–1.68) | <0.001 | 85.6 (10.7) | −0.17 | −0.26 | −0.08 | <0.001 |
| Other non-western | 1397 | 50.0 | 1.66 (1.48–1.85) | <0.001 | 70.2 (10.1) | −0.22 | −0.28 | −0.16 | <0.001 |
| Other western | 1121 | 52.8 | 1.86 (1.64–2.11) | <0.001 | 35.3 (12.3) | −0.52 | −0.58 | −0.46 | <0.001 |
| Ethnicity unknown | 3177 | 46.8 | 1.49 (1.37–1.61) | <0.001 | 85.7 (12.8) | −0.14 | −0.17 | −0.11 | <0.001 |
| **Female** | | | | | | | | | |
| All | 11,684 | 41.6 | – | | 105.9 (10.3) | – | | | |
| Ethnic Dutch | 7162 | 38.0 | – | | 126.3 (9.3) | – | | | |
| Antillean | 102 | 45.1 | 1.31 (0.89–1.95) | 0.175 | 124.7 (9.9) | 0.01 | −0.18 | 0.21 | 0.890 |
| Surinamese | 443 | 45.8 | 1.34 (1.11–1.63) | 0.003 | 78.1 (12.0) | −0.17 | −0.27 | −0.08 | <0.001 |
| Moroccan | 224 | 44.2 | 1.23 (0.94–1.61) | 0.134 | 78.0 (13.1) | −0.18 | −0.31 | −0.04 | 0.010 |
| Turkish | 199 | 35.7 | 0.86 (0.64–1.16) | 0.334 | 111.7 (9.5) | −0.02 | −0.16 | 0.12 | 0.777 |
| Other non-western | 582 | 52.7 | 1.73 (1.46–2.05) | <0.001 | 67.8 (11.2) | −0.22 | −0.31 | −0.14 | <0.001 |
| Other western | 719 | 51.7 | 1.73 (1.48–2.02) | <0.001 | 55.1 (12.3) | −0.34 | −0.42 | −0.27 | <0.001 |
| Ethnicity unknown | 2253 | 46.2 | 1.41 (1.28–1.56) | <0.001 | 90.8 (11.5) | −0.18 | −0.22 | −0.15 | <0.001 |

[a] 24 h or less between registration and the first treatment contact

[b] Adjusted for differences in age and marital status. All analyses are between each ethnic minority group and the ethnic Dutch (reference group)

[c] Time (in days) between registration and the final treatment contact. Means obtained through log- and back-transformation

were explanatory factors for the high risk of compulsory admission for non-Western immigrants in the Netherlands, suggesting a similar mechanism. Thus, it is our estimation that shorter waiting times for patients with ethnic minority backgrounds in this study are indicative of less favorable pathways.

In addition, it was confirmed that there was considerable inter-ethnic variation, defined as statistically significant differences in treatment characteristics between ethnic minority groups. For that matter, the least favorable characteristics of first psychosis treatment were found in episodes that concerned patients with Antillean backgrounds and, to a somewhat lesser extent, Surinamese. As such, our results partially concur with Mulder et al. [35], who reported that adverse pathways to psychiatric care and delayed help seeking were found among Dutch Antilleans, but not among immigrants from Turkey, Morocco or Surinam. Further research is needed to explain why patients with psychotic disorders in the Netherlands who have a Caribbean background appear to have the least favorable position. That is, other studies brought forward some explanations (e.g., limited mental health proficiency and knowledge of mental health services, feelings of shame

and fear for stigma, insufficient proficiency of the Dutch language and the fact that migrants are more often admitted to compulsory care because they are considered a danger to others [32, 33, 40]. However, these explanations insufficiently explain the particularly disadvantaged position of clients with a Caribbean background.

The number of patients who reached specialised mental health care through primary care services was considerable, which is to be expected considering the central gatekeeping role GPs play in the Dutch health care system. Yet ethnic Dutch patients were more often referred via primary care compared with some minority groups, who had higher referral rates for the criminal justice system. In the UK, similar findings [10, 11] were explained partly by the tendency of White British patients to be more often registered with a GP and to have greater use of and trust in primary care services than patients with minority ethnic backgrounds [10]. In this respect, the Netherlands apparently differ from the U.K., because patients with Moroccan or Turkish backgrounds are known to be frequent general practice visitors [41, 42]. Indeed, in our study, the proportion of Turkish and Moroccan patients who were referred by a GP was comparable with the proportion

**Table 3** Referring source in treatment episodes for psychotic disorders in the period 2001–2005

|  | N | MHC (%) | GP (%) | Somatic care (%) | Police (%) | Other (%) | Unknown (%) | ORpolice (95 % CI)[a] | p value |
|---|---|---|---|---|---|---|---|---|---|
| Male |  |  |  |  |  |  |  |  |  |
| All | 18,971 | 31.3 | 25.5 | 5.6 | 8.2 | 21.8 | 7.6 | – |  |
| Ethnic Dutch | 10,552 | 33.0 | 24.6 | 4.7 | 5.7 | 24.5 | 7.5 | – |  |
| Antillean | 324 | 39.5 | 17.0 | 5.9 | 12.7 | 18.5 | 6.5 | 2.32 (1.65–3.25) | <0.001 |
| Surinamese | 885 | 36.0 | 21.5 | 6.8 | 14.5 | 14.2 | 7.0 | 2.69 (2.19–3.30) | <0.001 |
| Moroccan | 1017 | 31.1 | 32.8 | 3.9 | 11.1 | 15.3 | 5.7 | 2.19 (1.77–2.72) | <0.001 |
| Turkish | 498 | 34.9 | 31.1 | 3.6 | 6.6 | 16.9 | 6.8 | 1.34 (0.93–1.93) | 0.116 |
| Other non-western | 1397 | 35.4 | 20.8 | 5.3 | 11.6 | 19.4 | 7.5 | 2.16 (1.80–2.60) | <0.001 |
| Other western | 1121 | 31.5 | 18.5 | 10.3 | 14.7 | 18.4 | 6.7 | 2.83 (2.35–3.40) | <0.001 |
| Ethnicity unknown | 3177 | 21.0 | 31.7 | 7.5 | 9.6 | 20.5 | 9.7 | 1.77 (1.53–2.04) | <0.001 |
| Female |  |  |  |  |  |  |  |  |  |
| All | 11,684 | 27.7 | 34.4 | 4.6 | 4.3 | 21.0 | 8.0 | – |  |
| Ethnic Dutch | 7162 | 29.6 | 31.6 | 4.1 | 3.2 | 23.7 | 7.8 | – |  |
| Antillean | 102 | 29.4 | 34.3 | 3.9 | 2.9 | 22.5 | 6.9 | 0.85 (0.27–2.70) | 0.780 |
| Surinamese | 443 | 34.8 | 36.1 | 4.1 | 8.4 | 9.9 | 6.8 | 2.48 (1.73–3.57) | <0.001 |
| Moroccan | 224 | 25.9 | 46.0 | 5.4 | 4.5 | 14.3 | 4.0 | 1.43 (0.75–2.75) | 0.282 |
| Turkish | 199 | 28.1 | 36.7 | 6.5 | 2.5 | 19.6 | 6.5 | 0.80 (0.33–1.98) | 0.633 |
| Other non–western | 582 | 32.6 | 29.6 | 4.5 | 8.6 | 17.2 | 7.6 | 2.57 (1.87–3.55) | <0.001 |
| Other western | 719 | 32.5 | 27.8 | 5.6 | 10.3 | 15.6 | 8.2 | 3.38 (2.57–4.45) | <0.001 |
| Ethnicity unknown | 2253 | 17.6 | 44.8 | 5.8 | 3.8 | 18.3 | 9.7 | 1.18 (0.92–1.53) | 0.189 |

*MHC* mental health care, *GP* general practitioner

[a] Odds ratios for police as the source of referral vs. other sources, adjusted for age and marital status. All analyses are between each ethnic minority group and the ethnic Dutch (reference group)

among ethnic Dutch patients. This appears to be a positive finding, since calmer and more cooperative patients are presumable more likely to be referred through primary care [43]. Also, the route via the GP is per definition driven by subjective need within patients, which is the preferred modus to enter specialized health care. On the other hand, previous authors have pointed out that routes via primary care are generally not the fastest. GPs may be insufficiently skilled in detecting or determining psychotic disorders, or uncertain on how to approach a patient who presents with a psychosis for the first time and is reluctant to seek professional help [1, 10].

Characteristics of episodes involving Turkish clients were in fact quite similar to those initiated by ethnic Dutch. This concurs with van der Post et al. [34], who found that Turkish patients accounted for a lower proportion of compulsory admissions than ethnic Dutch, whereas the average proportion of psychotic disorders, police referrals and previous psychiatric treatment were quite comparable with the ethnic Dutch group. It was hypothesized that this may be related to the positive influence of social support, as members of the Turkish group were seldomly living alone [44]. Hence, a positive interpretation might be that

this form of social support may act as a protective factor against the risk of coming into contact with the police in a psychotic state and therefore from the risk of emergency consultations and compulsory admissions.

Finally, it is worth mentioning that the absolute proportion of patients referred by the police was relatively low, i.e., 5.7 % among ethnic Dutch (males) compared with 17 % [10] or 12–16 % [11] among White British. At first glance, this low referral rate via the police looks positive, although others have argued that credible rates of referral via law enforcement may actually be reassuring [38], as they suggest that such services are able to detect and identify vulnerable citizens and call for appropriate help. However, if one assumes that the skills of Dutch police officers to recognize cases of severe mental illness are at least comparable to the skills of officers in the UK [45], other explanations for varying police referrals should be considered. For that matter, a popular hypothesis nowadays is that the presumably large proportion of time British police spend on mentally ill patients is the consequence of a general shortage of means (including clinical capacity) in mental health care [46]. Indeed, the number of psychiatric beds in Great Britain has declined considerably

**Table 4** Crisis contacts in treatment episodes for psychotic disorders in the period 2001–2005

| | N | Crisis contact(s) | | | | NO crisis contact(s) | | ORcrisis (95 % CI)[b] | p value |
|---|---|---|---|---|---|---|---|---|---|
| | | In first and subsequent months (%) | In first month, not subsequently (%) | Not in first month, only subsequently (%) | In first month, no (other) MHC subsequently[a] | MHC after first month (%)[a] | No (other) MHC after first month (%)[a] | | |
| **Male** | | | | | | | | | |
| All | 18,971 | 13.1 | 7.6 | 17.9 | 12.6 | 38.4 | 10.4 | – | |
| Ethnic Dutch | 10,552 | 11.9 | 7.1 | 19.2 | 9.1 | 41.8 | 10.8 | – | |
| Antillean | 324 | 11.4 | 7.4 | 17.0 | 16.7 | 34.6 | 13.0 | 1.20 (0.96–1.50) | 0.103 |
| Surinamese | 885 | 12.1 | 6.7 | 19.2 | 14.7 | 36.2 | 11.2 | 1.21 (1.06–1.39) | 0.006 |
| Moroccan | 1017 | 14.3 | 8.3 | 17.5 | 10.9 | 39.2 | 9.8 | 1.17 (1.03–1.33) | 0.109 |
| Turkish | 498 | 13.9 | 4.2 | 17.7 | 10.2 | 41.2 | 12.9 | 0.99 (0.82–1.18) | 0.884 |
| Other non-western | 1397 | 13.0 | 8.2 | 16.8 | 14.2 | 36.4 | 11.4 | 1.20 (1.08–1.35) | 0.001 |
| Other western | 1121 | 11.8 | 6.7 | 11.6 | 25.7 | 31.1 | 13.1 | 1.39 (1.23–1.57) | <0.001 |
| Ethnicity unknown | 3177 | 17.2 | 9.6 | 16.6 | 18.6 | 31.1 | 6.8 | 1.84 (1.70–2.00) | <0.001 |
| **Female** | | | | | | | | | |
| All | 11,684 | 14.7 | 9.1 | 18.0 | 11.4 | 36.9 | 10.0 | – | |
| Ethnic Dutch | 7162 | 13.2 | 8.7 | 19.5 | 8.5 | 39.4 | 10.7 | – | |
| Antillean | 102 | 15.7 | 9.8 | 23.5 | 10.8 | 33.3 | 6.9 | 1.47 (0.98–2.19) | 0.060 |
| Surinamese | 443 | 14.7 | 6.8 | 18.1 | 13.3 | 34.5 | 12.6 | 1.10 (0.90–1.33) | 0.353 |
| Moroccan | 224 | 13.4 | 11.6 | 15.2 | 15.6 | 35.3 | 8.9 | 1.23 (0.94–1.61) | 0.132 |
| Turkish | 199 | 12.6 | 8.0 | 18.6 | 7.0 | 41.7 | 12.1 | 0.84 (0.63–1.12) | 0.232 |
| Other non-western | 582 | 16.7 | 8.6 | 15.5 | 16.7 | 30.6 | 12.0 | 1.30 (1.09–1.54) | 0.003 |
| Other western | 719 | 12.1 | 9.3 | 14.0 | 18.5 | 35.2 | 10.8 | 1.17 (1.00–1.36) | 0.050 |
| Ethnicity unknown | 2253 | 19.7 | 10.7 | 15.1 | 16.7 | 31.6 | 6.3 | 1.66 (1.50–1.82) | <0.001 |

[a] MHC = Mental Health Care

[b] Odds ratios for crisis contacts at any time during episode vs. no crisis contacts, adjusted for age and marital status. All analyses are between each ethnic minority group and the ethnic Dutch (reference group)

over the past decades. Although there is a shortage of studies on the impact of these health care changes for the severely mentally ill [47], it is noteworthy that the number of psychiatry beds per 1000 inhabitants is significantly lower than in the Netherlands. As such, the developments and debate in the UK may be of relevance to the Netherlands, considering the efforts that are currently made to

further decline the clinical capacity in Dutch mental health care [48].

### Methodological issues

An important strength of this study is the availability of longitudinal data from a nationwide psychiatric case

**Table 5** Clinical mental health care and compulsory admissions in treatment episodes for psychotic disorders in the period 2001–2005

| | N | Clinical care | | | | Compulsory admission | | |
|---|---|---|---|---|---|---|---|---|
| | | During 1st month (%) | After 1st month (%) | ORclinical (95 % CI)[a] | p value | (%) | ORcompulsory (95 % CI)[b] | p value |
| Male | | | | | | | | |
| All | 18,971 | 33.4 | 15.8 | – | | 28.5 | – | |
| Ethnic Dutch | 10,552 | 33.8 | 16.9 | – | | 27.5 | – | |
| Antillean | 324 | 45.4 | 14.8 | 1.40 (1.12–1.76) | 0.004 | 34.9 | 1.36 (1.07–1.71) | 0.011 |
| Surinamese | 885 | 36.7 | 14.8 | 0.99 (0.86–1.14) | 0.890 | 36.3 | 1.46 (1.26–1.68) | <0.001 |
| Moroccan | 1017 | 30.7 | 15.9 | 0.84 (0.73–0.95) | 0.007 | 30.0 | 1.11 (0.96–1.28) | 0.148 |
| Turkish | 498 | 36.1 | 15.5 | 1.08 (0.90–1.29) | 0.432 | 31.7 | 1.25 (1.03–1.52) | 0.025 |
| Other non-western | 1397 | 42.0 | 14.3 | 1.20 (1.07–1.34) | 0.002 | 40.5 | 1.73 (1.54–1.94) | <0.001 |
| Other western | 1121 | 38.2 | 12.8 | 0.98 (0.87–1.11) | 0.775 | 29.7 | 1.09 (0.95–1.25) | 0.208 |
| Ethnicity unknown | 3177 | 24.6 | 13.9 | 0.63 (0.58–0.68) | <0.001 | 22.4 | 0.78 (0.71–0.86) | <0.001 |
| Female | | | | | | | | |
| All | 11,684 | 30.7 | 14.2 | – | | 23.5 | – | |
| Ethnic Dutch | 7162 | 32.4 | 14.9 | – | | 23.4 | – | |
| Antillean | 102 | 36.3 | 15.7 | 1.17 (0.79–1.72) | 0.446 | 41.2 | 2.24 (1.50–3.33) | <0.001 |
| Surinamese | 443 | 30.9 | 15.8 | 0.93 (0.77–1.13) | 0.453 | 27.5 | 1.20 (0.97–1.49) | 0.102 |
| Moroccan | 224 | 24.1 | 9.4 | 0.57 (0.43–0.76) | <0.001 | 20.1 | 0.84 (0.60–1.17) | 0.305 |
| Turkish | 199 | 27.1 | 11.1 | 0.71 (0.53–0.95) | 0.020 | 26.6 | 1.22 (0.89–1.69) | 0.223 |
| Other non-western | 582 | 37.5 | 13.9 | 1.13 (0.95–1.34) | 0.165 | 33.2 | 1.58 (1.32–1.90) | <0.001 |
| Other western | 719 | 35.3 | 13.4 | 1.05 (0.90–1.22) | 0.554 | 28.5 | 1.30 (1.09–1.54) | 0.003 |
| Ethnicity unknown | 2253 | 22.5 | 12.6 | 0.60 (0.54–0.66) | <0.001 | 18.2 | 0.73 (0.64–0.82) | <0.001 |

[a] Odds Ratios for any clinical care vs. none, adjusted for age and marital status. All analyses are between each ethnic minority group and the ethnic Dutch (reference group)

[b] Odds Ratios for compulsory admissions vs. none, adjusted for age and marital status. All analyses are between each ethnic minority group and the ethnic Dutch (reference group)

register, which covers most mental health care in the Netherlands over the period 2001–2005. As a consequence the database includes data for a large number of clients with a relatively rare condition, and distinguishes between patient groups with different ethnic background, thereby capturing the considerable diversity between these groups.

There are limitations as well. First, data from specific types of institutions (e.g., addiction care, juvenile care) are underrepresented in ZORGIS and completely excluded from this study. Therefore, the results of this study do not generalize to these settings. Second, a substantial number of episodes had to be excluded as a result of missing information. Actual numbers of episodes were consequently low for some ethnic groups. For example, there were only 102 and 199 episodes, respectively, involving Antillean and Turkish female patients, compared with more than 11,000 episodes with ethic Dutch patients. This may have limited the statistical power of the present study. Moreover, there was a considerable part of the study sample with an unknown ethnic background. We cannot rule out the possibility that the data was more likely to be

missing for a particular ethnic group, although the findings for the 'ethnicity unknown' group do not point towards a specific, more problematic group being represented in this category. Third, the definition of ethnic background was based on country of birth. There are at least three issues to consider here. First, country of birth of the client and his/her parents are a proxy measure of multiple variables [49], including migration background, health system knowledge, language proficiency and cultural background. More research is needed to further unravel the 'ethnic' differences reported in this study. For example, age at migration (in particular migration after school) may affect knowledge about the local health care system [22]. In relation to our previous point (i.e., the particularly disadvantaged position of some but not all clients with ethnic minority backgrounds) it would also be interesting to focus more on explaining differences between ethnic minority groups, for example by taking into account the individualistic–collectivistic backgrounds of those groups [50]. A second issue is that the Dutch definition of ethnicity differs from the approach in other countries, where it is more common to

measure ethnicity by self-identification. As a consequence, comparisons to other studies on for example BME groups are quite difficult to make. The fourth issue is that the algorithm that was used to manage cases in which information about the country of birth was missing may also have lead to misclassification. Still, as pointed out before, there is no reason to assume that misclassification was differential in relation to the treatment characteristics. If it occurred, it seems more plausible that misclassification of clients to ethnic groups lead to underestimation of differences rather than overestimation. As a fourth limitation, the treatment characteristics were administrative indicators and generic by implication, thereby leaving questions as to exactly how the trajectories developed the way they did. Finally, relating to the previous point, several variables were not included in the analysis of ethnic differences (e.g., severity of the disorder, socioeconomic status, generational status). Data on these parameters were incomplete. The fact that these variables were not included is a major limitation of this study and should be a point in question of future work on this topic.

## Conclusions

The results indicate that characteristics of mental health treatment for psychosis in the Netherlands are different for ethnic minority groups than for the ethnic Dutch. However, the results also draw attention to substantial differences between ethnic minority groups. The least favorable characteristics were found in episodes that involved male patients with Antillean and Surinamese backgrounds, and episodes were quite similar for ethnic Dutch and Turkish patients.

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