

Ethnic differences in risk of acute compulsory admission in Amsterdam, 1996–2005

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Abstract

Purpose Several European studies have shown that migrants from non-western countries are at increased risk of psychotic disorders. This study examines how this is reflected in the risk of acute compulsory admission (ACA).

Methods Information on all patients with an ACA in Amsterdam from 1996 to 2005 was linked to the Amsterdam municipal register.

Results The incidence of first ACA in Amsterdam was 4.5 per 10,000 person years. The incidence risk of ACA for any psychiatric disorders and for psychotic disorders in particular showed a 2- to 3-fold increase in almost all migrant groups from non-western countries, and especially for second-generation migrants. In addition, all non-western migrant groups were at increased risk of being assessed as posing a danger to others.

Conclusions The relative risk of ACA for psychotic disorders was similar to that for the incidence of psychotic disorders in most ethnic groups from other studies, suggesting that the increased risk of ACA in non-western migrants can mainly be explained by the increased incidence of psychotic disorders in these groups. However, the relative risk of ACA for psychotic disorders among

Moroccan migrants was lower than expected on the basis of incidence studies, which suggests that additional factors are relevant, such as illness-related expression and access to and quality of care.

Keywords Compulsory admission · Psychoses · Migration · Ethnicity · Public mental health

Introduction

The incidence of schizophrenia and other non-affective psychotic disorders is higher among certain groups of migrants in European countries than among the native population of these countries, and the risk is even higher among second-generation migrants [1–7]. There is concern about the quality of mental health care for immigrants, because of problems in patient–doctor communication, less trust in the health care system, and differences in explanatory models and expectations about treatment [8–14]. A substantial proportion of psychotic patients have an acute compulsory admission (ACA) at some stage, when voluntary options have failed. It is therefore interesting to see how these differences in incidence of disorders and the quality of care are reflected in the ethnic distribution of ACAs in Amsterdam, a city in which more than half of the population consists of migrants. This study describes all ACAs over a 10-year period (1996–2005) in Amsterdam by ethnicity (first and second generation), diagnoses, and criteria of danger, to answer the following research questions:

- What is the incidence of ACA in Amsterdam?
- Which ethnic groups are at increased risk of ACA?
- What is the distribution of diagnoses in the group of patients subjected to ACA?

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- Which ethnic groups are at increased risk of ACA due to psychotic disorders?
- Which ethnic groups are at increased risk of ACA when the primary danger is to others rather than to self?

Because several studies have shown that access to care is less than optimal for non-western migrants, we expect the ethnic differences in ACA for psychotic disorders to be even more pronounced than they already are in the incidence rates for these disorders.

Methods

An ACA (in Dutch: In BewaringStelling) can be ordered in an acute crisis situation to avoid danger resulting from a psychiatric disorder. The procedure requires a psychiatrist or resident psychiatrist to assess the patient and, where possible, to consult the treating psychiatrist or general practitioner. A medical declaration describes the psychiatric condition and the danger to be averted by ACA. On the basis of the medical declaration, the mayor decides whether to assign the ACA. Within 3 days of admission to a mental hospital, a judge decides whether to end or to prolong the measure, by maximally 3 weeks.

The clinical information in this study was derived from the medical declarations for an ACA, which are centrally filed by the municipal health service. Since 1996, all medical declarations for compulsory admissions are pre-coded into categories. Multiple diagnoses (based on the DSM IV classification system) and types of danger are scored. In addition, the primary diagnosis and the primary type of danger are indicated. All medical declarations from 1996 to 2005 were used for the analyses. All patients with an ACA were linked to the municipal register of Amsterdam, to determine which patients were residents of Amsterdam at the time of admission. In addition, the data from the municipal register were used to determine the ethnicity of each patient, because these data were not complete in the compulsory admissions register (70% unknown). The municipal registries in The Netherlands are updated continuously and are not based on census, but on complete registration. All public services are linked to the municipal registry, and residents are obliged to report moving to a different address, which ensures that register data are complete and reliable. Data on the size of the Amsterdam population by age group (18–24, 25–34, 35–44, 45–54, 55–64, 65 years and older), sex, country of birth of subjects and parents were based on the information from the Amsterdam bureau for Research and Statistics for 1996–2005. The population was calculated for 1 January of each year. For the analyses on ACA incidence, only patients of 18 years and older were included.

Each patient was included only once in the study population, which means that only the first ACA of a person during the study period was taken into account. Because a first ACA in the observation period is not necessarily the first ACA in a patient's life, an additional analysis was performed on the first ACA in the period 2000–2005. The data show that 90% of the following ACA occur within 4 years after the previous one. By selecting a first ACA in the period from 2000 to 2005 and by excluding patients who had an ACA in the period 1996–1999, this ACA is very likely to be the first one. In order to examine whether major differences occurred in the results in comparison to the entire dataset of 10 years, all analyses were repeated on this smaller dataset.

Multiple inclusions in the study population were avoided by comparing the patients with an ACA by name and date of birth. To minimize the effect of typing errors, patients with the same phonetic name and the same date of birth were considered the same person, as were patients with the same written name and a date of birth differing only by day, by month, or by a maximum of 5 years.

The Dutch registration system classifies a person born outside The Netherlands as a first-generation migrant. A second-generation migrant is someone born in The Netherlands from a parent who is a first-generation migrant. The largest ethnic minority groups in The Netherlands are Turkish, Moroccan, Surinamese, and Antillean migrants. The Turkish and Moroccan male migrants originally arrived as labour migrants in the 1960s and 1970s. A second wave of immigration followed as a result of family reunification of the original labour migrants. From 1980s onwards, a new wave of immigration has occurred as migrants married partners from their country of origin. The Surinamese and Antillean migrants from former Dutch colonies came, mainly in the 1970s, for more diverse reasons. A large influx of Surinamese migrants followed the independence of Suriname in 1975. The Antilleans mainly came for socioeconomic reasons. The population of Amsterdam consists of other ethnic groups of both western and non-western origin. People came for various reasons, such as socioeconomic reasons or because of the political situation in their home country. The definition of western versus non-western is based on the classification of the National Bureau of Statistics, which is based on the socioeconomic and sociocultural position of a country [15].

Information on 85 patients who were in the municipal register could not be used, because the information was either confidential or under scrutiny by the office controlling the registry at the moment of data collection. People can request that background information about themselves, such as ethnic background, be not released to other individuals or organizations. Results are presented only for

those patients registered in Amsterdam, since this group can be linked to the denominator population: the total population registered in the municipal register.

Statistical analyses

In order to compute rate ratios for ethnic groups, Poisson regression analyses were performed, with the incidence of ACA as dependent variable, and ethnicity, age, and sex as independent variables. Both crude and adjusted rate ratios were calculated. Analyses were run separately for ACA in general and ACA for psychotic disorders. To identify ethnic groups at increased risk of ACA because the individual was considered to be a danger to others, logistic regression analyses were performed, with the primary danger as dependent variable and ethnicity, age, sex, and diagnostic category as the independent variables. Both crude and adjusted odds ratios were calculated.

Results

In the period from 1996 to 2005, 5,678 ACAs were assigned to 4,152 patients. Of these 4,152 patients, 2,984 were registered in the municipal register of Amsterdam on the date of their first ACA (71.9%).

Incidence of ACA by demographic characteristics

The data for 2,646 people of 18 years and older, with a first ACA, and without missing data were analysed. The annual incidence of a first ACA in patients registered in Amsterdam was 4.5 per 10,000 people (Table 1). High-risk groups were men, young adults (18–24 years), and non-western migrants, especially second-generation migrants. Among the Surinamese, the Antillean, and the other non-western migrants, both the first and the second generation were at increased risk of an ACA. Among the Moroccan and

Table 1 Number, incidence rate, and crude and adjusted rate ratios (RR) for all first ACA in persons of 18 years and older registered in Amsterdam, 1996–2005

	Number ACA	Population years	Incidence per 10,000 py	Crude RR		Adjusted RR ^a	
				RR	95% CI	RR	95% CI
Sex							
Men	1,565	2,868,717	5.5	1.00	–	1.00	–
Women	1,081	3,013,473	3.6	0.66	0.61–0.71	0.67	0.62–0.73
Age groups							
18–24	389	645,794	6.2	1.00	–	1.00	–
25–34	714	1,550,710	4.6	0.75	0.66–0.84	0.84	0.74–0.95
35–44	687	1,253,521	5.5	0.89	0.79–1.01	0.98	0.86–1.12
45–54	418	928,206	4.5	0.73	0.64–0.84	0.84	0.72–0.97
55–64	197	614,891	3.2	0.52	0.44–0.62	0.62	0.52–0.74
65+	232	889,068	2.6	0.42	0.36–0.50	0.56	0.47–0.66
Ethnicity							
Dutch	1,289	3,539,111	3.6	1.00	–	1.00	–
Surinamese 1st gen	319	413,510	7.7	2.12	1.87–2.39	2.00	1.77–2.26
Surinamese 2nd gen	85	87,408	9.7	2.67	2.14–3.33	2.29	1.83–2.87
Antillean 1st gen	60	64,647	9.3	2.55	1.97–3.30	2.33	1.79–3.02
Antillean 2nd gen	14	14,358	9.8	2.68	1.58–4.53	2.35	1.39–4.00
Moroccan 1st gen	122	291,023	4.2	1.15	0.96–1.39	1.03	0.86–1.24
Moroccan 2nd gen	47	43,142	10.9	2.99	2.24–4.00	2.45	1.81–3.32
Turkish 1st gen	69	191,097	3.6	0.99	0.78–1.26	0.89	0.70–1.13
Turkish 2nd gen	27	27,761	9.7	2.67	1.82–3.91	2.18	1.48–3.22
Other western 1st gen	195	490,012	4.0	1.09	0.94–1.27	1.07	0.92–1.24
Other western 2nd gen	189	367,251	5.2	1.41	1.21–1.65	1.33	1.14–1.55
Other non-western 1st gen	211	321,354	6.6	1.80	1.56–2.09	1.58	1.36–1.82
Other non-western 2nd gen	19	31,516	6.0	1.66	1.05–2.60	1.42	0.90–2.24
Total	2,646	5,882,190	4.5	–	–	–	–

py person years, gen generation, CI confidence interval

^a RR are adjusted for the other variables in the table (age, sex, ethnicity)

Turkish migrants, only the second generation was at increased risk.

Distribution of diagnoses

Non-affective psychotic disorders were the most common diagnoses for all first ACAs, both among the primary diagnoses (65%) and among all diagnoses (70%) (Table 2). Within this diagnostic category, only a relatively small proportion of patients were diagnosed with schizophrenia (36%), with the majority suffering from psychotic disorders not otherwise specified (60%). Mood disorders, of which mood disorders with psychotic features were the most common, accounted for 25% of the primary diagnoses. Substance abuse only accounted for a small proportion of the primary diagnoses, but was mentioned in 14% of all patients. The type of substance was not pre-coded and could therefore only be determined from the comments section on some forms. Substance abuse information was available for 204 patients (49% of those with substance use disorders), 72% of whom abused drugs and 28% alcohol. The type of drugs was known for only 76 patients (52% of those with drug problems): 54% used cannabis, 28% cocaine, 9% opiates, and 24% other drugs such as amphetamines or mushrooms. Of the other disorders,

Table 2 DSM IV diagnosis (all and primary) in all first ACA in people registered in Amsterdam, 1996–2005

	Primary diagnosis		All diagnosis	
	<i>n</i>	%	<i>n</i>	%
Schizophrenia	700	23.5	822	27.5
Delusional disorders	64	2.1	145	4.9
Other psychotic disorders	1,169	39.2	1,325	44.4
<i>Subtotal psychotic disorders</i>	<i>1,933</i>	<i>64.8</i>	<i>2,091</i>	<i>70.1</i>
Bipolar disorders	188	6.3	225	7.5
Major depression and other mood disorders without psychotic features	144	4.9	189	6.3
Depressive disorder with psychotic features	396	13.3	482	16.2
<i>Subtotal mood disorders</i>	<i>728</i>	<i>24.5</i>	<i>868</i>	<i>29.1</i>
Substance use disorders	82	2.7	413	13.8
<i>Subtotal substance use disorders</i>	<i>82</i>	<i>2.7</i>	<i>413</i>	<i>13.8</i>
Personality disorders	24	0.8	185	6.2
Disorders in adolescence	4	0.1	17	0.6
Organic brain syndrome or dementia	152	5.0	224	7.5
Other Axis I disorders	12	0.4	32	1.1
Behavioural disorders	34	1.1	142	4.8
Mental handicap	1	<0.1	58	1.9
V-codes and additional codes	4	0.1	24	0.8
<i>Subtotal other</i>	<i>231</i>	<i>7.5</i>	<i>694</i>	<i>23.3</i>

organic brain syndrome and dementia were the most frequent diagnoses. Behavioural and personality disorders were mentioned in 5–6% of patients, but rarely as the primary disorder.

Incidence of ACA for psychotic disorders by demographic characteristics

Groups with the highest risk of ACA were men, young adults (18–24 years), and all non-western migrants (Table 3). In general, both the first and second generation of Surinamese and Antillean migrants were at increased risk, whereas among Moroccan and Turkish migrants, the risk was hardly increased in the first generation but was strongly increased in the second generation. The ethnic risk pattern of ACA for patients with psychotic disorders is shown by sex, adjusted for age, in Table 4. In most ethnic

Table 3 Number and adjusted rate ratios for first ACA with the diagnosis psychotic disorders among the population aged 18 years and older, registered in Amsterdam, 1996–2005

	ACA (<i>n</i>)	RR	95% CI
Sex			
Men	1,151	1.00	–
Women	671	0.57	0.52–0.63
Age group			
18–24	335	1.00	–
25–34	537	0.76	0.66–0.88
35–44	474	0.80	0.69–0.94
45–54	280	0.68	0.57–0.80
55–64	101	0.39	0.31–0.50
65+	95	0.30	0.24–0.38
Ethnicity			
Dutch	761	1.00	–
Surinamese 1st gen	271	2.78	2.42–3.20
Surinamese 2nd gen	73	2.83	2.21–3.63
Antillean 1st gen	50	3.10	2.33–4.13
Antillean 2nd gen	10	2.46	1.32–4.61
Moroccan 1st gen	109	1.45	1.19–1.77
Moroccan 2nd gen	42	3.02	2.18–4.17
Turkish 1st gen	50	1.01	0.76–1.35
Turkish 2nd gen	21	2.34	1.50–3.64
Other western 1st gen	128	1.16	0.97–1.40
Other western 2nd gen	122	1.38	1.14–1.67
Other non-western 1st gen	166	1.93	1.63–2.29
Other non-western 2nd gen	16	1.73	1.05–2.85
Total	1,822	–	–

RR adjusted for age, sex, and ethnicity, *gen* generation, *CI* confidence interval

In Table 3 the specific diagnoses included in the aggregated diagnoses psychotic disorders are mentioned

Table 4 Number, incidence rate, and rate ratios (RR), adjusted for age, for first ACA for psychotic disorders by gender in persons registered in Amsterdam, 1996–2005

	Men				Women			
	ACA (<i>n</i>)	Incidence per 10,000 py	RR	95% CI	ACA (<i>n</i>)	Incidence per 10,000 py	RR	95% CI
Dutch	446	2.65	1.0	–	318	1.71	1.0	–
Surinamese 1st gen	169	9.03	3.1	2.6–3.7	102	4.51	2.3	1.8–2.9
Surinamese 2nd gen	54	12.88	3.0	2.2–4.0	19	4.18	2.5	1.5–4.0
Antillean 1st gen	30	9.39	3.0	2.1–4.4	20	6.12	3.1	2.0–4.9
Antillean 2nd gen	4	5.92	1.5	0.5–4.0	6	7.89	4.5	2.0–10.2
Moroccan 1st gen	88	5.39	1.8	1.4–2.2	21	1.64	0.9	0.5–1.3
Moroccan 2nd gen	34	15.96	3.2	2.2–4.6	8	3.66	2.4	1.1–4.9
Turkish 1st gen	36	3.50	1.1	0.8–1.6	14	1.59	0.8	0.5–1.4
Turkish 2nd gen	18	12.25	2.5	1.6–4.1	3	2.29	1.5	0.5–4.6
Other western 1st gen	70	2.99	1.1	0.9–1.4	58	2.27	1.2	0.9–1.7
Other western 2nd gen	76	4.23	1.4	1.1–1.8	46	2.45	1.3	1.0–1.8
Other non-western 1st gen	115	6.22	2.0	1.6–2.5	51	3.74	1.9	1.4–2.6
Other non-western 2nd gen	11	7.12	1.7	0.9–3.1	5	3.11	1.9	0.8–4.5

gen generation, py person years, CI confidence interval

groups, both men and women were at increased risk, but in second-generation Turks and first-generation Moroccans, men were at increased risk whereas women were not. In contrast, the risk of ACA was not significantly increased in second-generation Antillean men whereas it was in second-generation Antillean women.

Types of danger

To assign an ACA, acute danger has to be present that is not avoidable in any other way than by admitting the patient to a mental hospital. In about one-third of patients, the primary danger was suicide or self-harm, and in another third, the primary danger was homicide or causing severe harm to others (Table 5). Provoking aggression in others was the primary danger in 9% of patients, followed by severe self-neglect. Danger of neglecting someone in the patient's care was relatively rare, as was danger to the mental health of someone else or acute social decline. The general safety of goods and persons was often in danger, but was hardly ever considered to be the primary danger. The primary danger concerned others in slightly less than half of all patients. Most patients (70%) were a danger to themselves and to others.

Most patients who were a danger to others were men from the major migrant groups, even after adjustment for the type of disorder (Table 6). The high odds ratio for second-generation Turkish migrants was particularly notable. Results were similar when we repeated all the above analyses including only patients with a first ACA in 2000–2005, in order to exclude ACA that were incorrectly

Table 5 All types of danger and primary types of danger in first ACA in patients registered in Amsterdam, 1996–2005

Type of danger	Primary type of danger		All types of danger	
	<i>n</i>	%	<i>n</i>	%
Suicide or self-harm	1,056	35.4	1,524	52.0
Social decline	50	1.7	864	29.0
Self-neglect	236	7.9	1,047	35.6
Provoking aggression in others	277	9.3	1,454	49.2
<i>Subtotal danger to oneself</i>	<i>1,619</i>	<i>54.4</i>	<i>2,673</i>	<i>89.6</i>
Taking someone else's life, or causing severe harm to someone else	1,029	34.5	1,621	54.9
Mental health of someone else	17	0.6	525	17.9
Neglecting someone in patient's care	28	0.9	125	4.3
General safety of goods and persons	285	9.6	1,210	41.0
<i>Subtotal danger to others</i>	<i>1,359</i>	<i>45.6</i>	<i>2,177</i>	<i>73.0</i>

n number

identified as a first ACA. Over an observation period of 8 or more years, 80% of patients had had their first ACA less than 4 years before their second ACA. The first ACA in the period 2000–2005 is therefore most likely the actual first ACA in a patients' life.

Discussion

Involuntary confinement, especially acute, is the ultimate and most radical step in a patient's care. The need for an

Table 6 Demographic variables associated with danger to others as the primary type of danger, among patients with an ACA registered in Amsterdam, 1996–2005

	% of patient being a danger to others	Crude OR	95% CI	Adjusted OR ^a	95% CI
Ethnicity					
Dutch	40.2	1.00	–	1.00	–
Suriname 1st gen	55.2	1.83	1.43–2.33	1.48	1.14–1.92
Suriname 2nd gen	62.0	2.43	1.60–3.69	1.88	1.19–2.97
Antilles 1st gen	62.9	2.52	1.50–4.27	2.02	1.17–3.49
Antilles 2nd gen	60.0	2.23	0.79–6.31	2.18	0.75–6.36
Morocco 1st gen	65.6	2.84	1.93–4.17	2.03	1.34–3.06
Morocco 2nd gen	56.6	1.94	1.12–3.38	1.32	0.73–2.40
Turkey 1st gen	62.0	2.42	1.48–3.96	2.03	1.22–3.38
Turkey 2nd gen	78.6	5.45	2.20–13.54	3.95	1.52–10.24
Other western 1st gen	39.5	0.97	0.72–1.32	0.89	0.65–1.23
Other western 2nd gen	42.3	1.09	0.81–1.48	1.04	0.76–1.44
Other non-western 1st gen	46.2	1.28	0.96–1.70	0.97	0.72–1.32
Other non-western 2nd gen	41.7	1.06	0.47–2.41	0.90	0.38–2.13

gen generation, CI confidence interval

^a Adjusted for age, sex, and diagnosis

ACA is determined by the characteristics of both the patient and the health care system. Insight into ethnic differences in the risk of an ACA is therefore an important step in evaluating equity in mental health care.

We found that the incidence of ACA differed not only by ethnic group but also by generation of migrant. While both first- and second-generation Surinamese, Antillean, and other non-western migrants were at increased risk of ACA, it was mainly second-generation Turkish and Moroccan migrants that were at increased risk of ACA. ACA for psychotic disorders followed a similar ethnic pattern, both among women and men. The majority of patients with an ACA were diagnosed with a non-affective psychotic disorder (65%) and about 25% with mood disorders. Among the psychotic disorders, psychotic disorder not otherwise specified was the most common diagnosis; only a small percentage of patients were diagnosed with schizophrenia. Most (70%) patients with an ACA were considered both a danger to themselves and to others. In slightly less than half of the patients, the danger to others was considered the primary danger. This was more often the case for all major non-western migrant groups than for ethnic Dutch patients, even after adjustment for diagnosis.

The distribution of ACA is influenced by ethnic differences in the incidence of psychotic disorders, the expression of illness characteristics, and by the quality of mental health care. Unfortunately, data on the incidence of psychotic disorders among migrants in Amsterdam are not available. However, incidence data on psychotic disorders are available for The Hague, the third city in the Netherlands and with a substantial immigrant population as well. Comparison of the ACA data with these age and sex standardised rate ratios of psychotic disorders by ethnicity

in The Hague, showed a comparable pattern for both first- and second-generation Surinamese and Turkish residents in comparison to the Dutch (rate ratio's from both studies between 2.6 and 2.9 for Surinamese first and second generation; between 1.0 and 1.4 for first-generation Turkish and 2.3 for second-generation Turkish) [6]. The similarity in the rate ratios suggests that the risk of being assigned an ACA given that one has a psychotic disorder is comparable for Turkish and Surinamese in comparison to the Dutch. This might indicate that factors such as illness expression and quality of mental health care do not show large ethnic differences for these groups. For the Antilleans and the Moroccans the pattern is less comparable. Antillean migrants had the highest risk of an ACA for psychotic disorders (RR = 3.1 and 2.5 for first and second generation, respectively) compared to an only mildly increased risk of psychotic disorders [RR = 1.9 (0.8–4.6) and RR = 1.4 (0.2–10.4), respectively]. Since Antilleans compose a relatively small proportion of the urban population, the confidence intervals are very wide around the estimates from The Hague, and the rates for ACA in Amsterdam fall well within these intervals. For Moroccans, however, the relative risk of ACA (RR = 1.5 and 3.0 for first and second generation, respectively) was much lower than the relative risk for developing a psychotic disorders in The Hague [RR = 4.0 (2.5–6.3) and 5.8 (2.9–11.4), respectively].

This finding struck us, for Veling et al. have shown that Moroccans in The Hague were more severely ill at first contact than members of other ethnic groups and had a higher frequency of persecutory delusions [16]. Given the large number of Moroccans in penitentiary institutions [17], and the higher prevalence of psychotic symptoms

among this group in forensic settings [18, 19], this might suggest an even more unfavourable pathway for Moroccan patients with psychotic illness, namely, the criminal system. In the Netherlands, referral to an ACA through the criminal justice system is not an option. Once a crime has been committed, treatment takes place within the criminal justice system, whereas an ACA is a medical intervention.

The risk of being assessed a danger to self or to others differed by ethnicity, as reported in other studies in The Netherlands [20, 21] and abroad [22, 23]. This might be due to differences in how psychotic illness is expressed or in how professionals perceive the illness is expressed [24–30]. Whether the higher level of threat perceived by the assessing psychiatrist or the police reflects actual differences, or a cross-cultural misinterpretation, is a target for further study. We therefore support the conclusions of Vinkers et al. [21], namely, that objective measures of violence towards others should be included in the assessment for an ACA.

Ethnic differences in access to care or in the quality of care received are often suggested, but no clear data are available to support this. A recent study of ACA in Amsterdam suggested that outpatient treatment can help prevent compulsory admission [31]. In ambulatory care in Amsterdam, Moroccan and Surinamese patients with psychotic disorders are overrepresented compared to their proportion in the population [32]. It is unclear, however, whether this is a direct reflection of a higher incidence of psychotic illness in this ethnic group. A study in the UK found no ethnic differences in duration of untreated psychosis, but did find a more unfavourable pathway to care for migrants (less by GP, more through criminal justice system) [33]. Although several studies have found differences in care, and that more unfavourable pathways are associated with an increased risk of ACA [14, 25, 34, 35], it is unclear whether these differences exist for specific migrant groups in the Netherlands, and to what extent they explain differences in the risk of ACA. These different factors cannot be studied separately, as they interact. For instance, the manner in which psychotic illness is expressed may lead to a different pathway to care, and a delayed pathway to care will be associated with a more severe illness at presentation.

Strengths and limitations

This is the first study to analyse all ACAs assigned in Amsterdam. Since only residents of Amsterdam were included in the analysis, the results are not biased by tourists or illegal immigrants. Since there was reliable information on the country of birth of patients and their parents, it was possible to calculate rate ratios for each group, subdivided by generation. As a result of the large

numbers in this study, relative risks could be estimated with relative precision.

A limitation of this study concerns the reliability of the diagnoses and the type of danger. All diagnoses were made during a single assessment in a crisis situation. Although both the treating psychiatrist and the general practitioner should be consulted, this is not always possible, especially during the night hours or in the weekend. Therefore, the diagnoses and definitions of danger need to be interpreted within this context. The observation that only a minority of psychotic disorders were classified as schizophrenia probably reflects the acuteness of the situation. The diagnosis schizophrenia is often made during hospital stay or at the start of a second psychotic episode, and it is likely that many patients with psychotic disorders not otherwise specified will ultimately be diagnosed with schizophrenia. However, since the majority of the analyses were based on the large group of non-affective psychotic disorders, rather than specific diagnoses (i.e., schizophrenia, delusional disorders) the risk of misclassification is small.

Conclusion

This study from Amsterdam, The Netherlands, found an increased risk of ACA among first- and second-generation immigrants from Surinam and the Dutch Antilles. This increased risk was also seen in second-generation Turkish and Moroccan migrants, but hardly or not in the first generation. Although this increased risk of ACA is probably mainly due to a higher incidence of psychotic disorders seen in these ethnic groups, additional factors are also relevant. The fact that patients from non-western groups were more often considered a danger to others than Dutch or other western groups suggests a difference in the expression or in its interpretation. In addition, differences in access to and in the quality of care received influence the risk of receiving compulsory treatment. These factors may interact and result in the observed higher risk of ACA among non-western migrant groups.

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