Impact of a Long Asylum Procedure on the Prevalence of Psychiatric Disorders in Iraqi Asylum Seekers in The Netherlands

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Abstract: Clinically, a long asylum procedure seems to be associated with psychiatric disorders. However, data on this issue are lacking. In a national community-based study, using random sampling, we compared two groups of Iraqi asylum seekers, who had resided less than 6 months ($N = 143$) and more than 2 years ($N=151$), respectively, in The Netherlands. Respondents were interviewed with fully structured, culturally validated, translated questionnaires. Psychiatric (DSM-IV) disorders were measured with the Composite International Diagnostic Interview 2.1 and evaluated in relation with premigration and postmigration adverse life events. Overall prevalence of psychiatric disorders was 42% in the first group and 66.2% in the second. The prevalence rates of anxiety, depressive, and somatoform disorders were significantly higher in the second group. Posttraumatic stress disorder was high in both groups but did not differ ($p > .05$). On logistic regression of all relevant risk factors, a long asylum procedure showed an odds ratio of 2.16 (confidence interval $= 1.15-4.08$) for psychopathology. The conclusion is that, indeed, the duration of the asylum procedure is an important risk factor for psychiatric problems. Both politicians and mental health workers should take note of this finding.

Key Words: Asylum seekers, psychiatric disorders, Iraq, trauma, life events.

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There are a growing number of studies that have measured psychopathology among refugees. Both clinic-based studies (Gorst-Unsworth and Goldenberg, 1998; Mollica et al., 1987; Ramsay et al., 1993; Van Velsen et al., 1996) and community-based studies (Hauff and Valgum, 1995; Michultka et al., 1998; Westermeyer, 1988) show high scores of psychiatric problems and disorders. Recently, research has been performed among refugees living in the region of origin (De Jong et al., 2003; Mollica et al., 1999; Van Ommeren et al., 2001) or in postconflict areas where people have returned (De Jong et al., 2001). So far, only a few studies (Silove et al., 1997; Steel et al., 1999) provide data on psychiatric problems of asylum seekers, *i.e.*, refugees living in a Western country who are still in an asylum procedure. Because of the current restrictive policies in most Western countries, the length of the asylum procedure is usually a matter of years. For instance, in The Netherlands in January 2003 approximately two thirds of the 60,000 asylum seekers were more than 2 years in the procedure. Compared with refugees who have a residence permit, the life perspectives and living conditions of asylum seekers are quite different. However, knowledge about the psychiatric consequences of this situation is lacking (Silove et al., 1997). The purpose of the present study is to assess prevalence rates of psychiatric disorders among asylum seekers and the possible influence of the length of the asylum procedure on the prevalence rates. A longitudinal study appeared to be impossible because of practical problems (such as frequent moves, hiding, or expulsion after denial of residence permit). Therefore, we performed a cross-sectional, community-based study on psychopathology and evaluated the relative importance of premigration and postmigration risk factors. We compared two groups of asylum seekers from the same country of origin that were prestratified based on the duration of their stay in The Netherlands. We chose to study the Iraqi population because they have accounted for one of the biggest groups of asylum seekers in The Netherlands. Moreover, to our knowledge, a community

study on psychiatric disorders among Iraqi refugees has never been performed.

METHODS

Participants

From the population of all adult (≥18 years) Iraqi asylum seekers in The Netherlands, random samples were taken from two groups. Prestratification was performed on the entire population based on the length of stay in The Netherlands. Potential respondents were contacted by means of an address list retrieved from the agency for the reception of asylum seekers: Centrale Opvang Asielzoekers (COA). This agency is commissioned by the Dutch government to provide accommodation to asylum seekers. Also, the minority of asylum seekers who do not actually need housing because, for example, they can live with family are kept in the registers of COA and so were included in the lists. However, the lists were not up to date (moves, removals, wrong addresses, registration problems, and so forth). Thus, a considerable number of potential participants could not be contacted. We defined the response rate as the ratio of the number of study participants to the number of adequate addresses.

Group 1 was selected on the criterion that persons had resided less than 6 months in The Netherlands. The group was sampled from the monthly lists of newly arrived Iraqi asylum seekers who passed the first screening after entering the country between September 2000 and November 2001. From the total group of 582 persons (317 males [54.4%] and 265 females [45.6%]), we randomly selected 362 addresses. Table 1 shows the reasons and the numbers of exclusions and noncontacts. Finally, 175 individuals could be contacted and were eligible for the interview. Thirty-two of them (partly) refused. Therefore, from group 1, data could be used for full analysis from 143 interviews (82%).

Group 2 was selected on the criterion that they had been living in The Netherlands for at least 2 years. On the chosen date of May 31, 1999, the COA defined 2352 Iraqi asylum seekers who fulfilled this criterion, 1844 males (78%) and 508 females (22%). We randomly selected 474 addresses. Figures of exclusion and noncontacts are also shown in Table 1. Of the 190 persons whom we were finally able to contact and who were eligible for an interview, 39 (partly) refused. Therefore, from group 2, data could be used for full analysis from 151 interviews (79%).

Instruments

The questionnaire used in this study is an adapted version of instruments previously used in Algeria, Cambodia, Ethiopia, and Gaza (De Jong et al., 2001). The demographic part contained questions about age, sex, marital status, children, ethnicity, religion, literacy, geographic background,

TABLE 1. Response and Retrieval of At-Random Samples of Iraqi Asylum Seekers Arrived <6 Months (Group 1) and >2 Years (Group 2) in The Netherlands, 2000 to 2001

	Group 1	Group 2
Total Iraqi asylum seekers >18 yr	528[a]	2.352[b]
Sample	362	474
Exclusion criteria		
Relatives, first-line	17−	5−
>6 mo in the country	19−	
Received residence permit		6−
Language problems	3−	4−
Too sick to be interviewed		3−
Left the center without notice	51−	41−
Noncontacts	97−	238−
Persons eligible for interview	175	190
Refused interview	8−	20−
Permitted only short interview	24−	19−
Analyzed	143	151
Response rate	143/175: 81.7%	151/190: 79.5%

[a]All newly arrived and admissible Iraqi asylum seekers (>18 yr) in the period between September 2000 and November 2001.

[b]All Iraqi asylum seekers (>18 yr), 2 yr or longer in procedure on May 31, 1999.

length of stay in The Netherlands, education and occupation in Iraq, language skills, and psychiatric problems in the past.

Adverse life events were gathered over four life periods: (1) 0 to 12 years, (2) 13 years to departure from Iraq, (3) departure from Iraq to arrival in The Netherlands, and (4) after arrival in The Netherlands. The 163 questions covered youth domestic events, death and separation in the family, loss of material goods, conflict-related events, and general life events. Youth domestic events encompassed being raised by both biological parents, and 14 items related to an unsafe and abusing environment. Conflict-related events were selected from the Harvard Trauma Questionnaire (HTQ), an instrument widely used in research among refugees (Mollica et al., 1987).

Psychiatric disorders were measured with the World Health Organization Composite International Diagnostic Interview (CIDI), version 2.1 (World Health Organization, 1997), sections C (somatoform disorders), D (anxiety disorders), E (depressive disorders), J (alcohol dependency and misuse), and K (obsessive compulsive disorder and posttraumatic stress disorder [PTSD]). The Iraqi-Arabic questionnaire was based on the Palestinian-Arabic version, which had been translated from English and culturally validated (Flaherty et al., 1988) and translated in a 7-step procedure (De Jong et al., 2001). For use in the Iraqi population, a focus group of eight men and women from different ethnic and

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professional backgrounds modified the instruments according to the guidelines described by Van Ommeren et al. (1999). A few last changes were made after the pilot testing that also served to assess the feasibility of conducting a rather lengthy interview.

Procedure

All interviewers (14) were Iraqi and fluent in Dutch and Arabic. They were selected and trained by a World Health Organization-acknowledged CIDI trainer. The 4-day training sessions were followed up by two refresher training sessions. Invitation letters (in Arabic) were sent to all participants using the address lists of the COA. Regional COA managers and medical personnel in the centers were informed about the study, and the latter were asked to help to contact the participants. If an asylum seeker was not living in the center, an invitation letter was also sent to their home address. When participants had moved, we asked the service desk from the COA to find the most recent place of stay, and the aforementioned procedure was repeated. Questionnaires, completed by the interviewers, were thoroughly screened and, if necessary, sent back for correction or completion.

Oral rather than written informed consent was obtained because of possible distrust and illiteracy. The research protocol was approved by the Central Committee on Research Involving Human Subjects of the Vrije Universiteit of Amsterdam.

Statistics

The statistical differences on categorical data between the two groups with respect to sociodemographic characteristics and prevalence rates of psychopathology were calculated with the χ^2 test. To examine the experience of adverse events, the various domains of adverse life events were dichotomized ("not experienced" against "at least one"). The χ^2 test was used to compare the frequencies of the experiences between both groups. The intensity of adverse events was defined as the total number of experienced events per domain. t-Tests were used to compare the summarized scores per domain/period of both groups and other continuous variables.

Univariate and multivariate logistic regression analyses were performed as follows. First, to estimate potential bias caused by differences in demographics (Table 2), these variables were entered as statistical predictors for psychiatric disorders in separate univariate logistic regression analyses. The summarized scores per domains/period of adverse life events were also entered in separate univariate logistic regression analyses as statistical predictors for psychiatric disorders. Subsequently, to understand the relative importance of the experienced domains within the context of multiple exposure of trauma, adjusted odds ratios were calculated using multivariate logistic regression analyses: all statistical significant predictors from the univariate logistic regression

analyses were entered in one analysis per psychiatric disorder to adjust for spuriousness in the prediction by controlling for the effects of all other predictors. The estimates obtained from these multivariate logistic regression analyses reflect the adjusted odds of adverse domains for psychiatric disorders. In all these analyses of risk factors, odds ratios, 95% confidence intervals, and p values were calculated. For all tests used in this study, differences were considered significant at p < .05.

All analyses were performed with SPSS version 10.0.7 (Norusis, 1999).

RESULTS

Sociodemographics and Adverse Life Events

Except for the length of stay in The Netherlands, the sociodemographic characteristics of the two groups were very much alike (Table 2). However, group 1 contained more females and subjects younger than 24 years of age. The difference in sex ratio was in agreement with the ratios in the original study population. The prevalence and numbers of adverse life events are shown in Table 3. Overall, group 2 reported more torture and other adverse life events and also more adverse life events after arrival.

Psychopathology

Table 4 shows the lifetime prevalence of psychiatric disorders. The overall prevalence rates were high (54.4%), and significantly higher in group 2 (66.2% vs. 42.0%; $\chi^2[1] = 17.44; p < .0005$). There was a significant difference between the two groups for all measured disorders (cluster level), except for PTSD. In group 1, PTSD was most prevalent (31.5%), followed by depressive disorders (25.2%) and anxiety disorders (14%), whereas in group 2, the depressive disorders scored highest (43.7%), followed by PTSD (41.7%) and anxiety disorders (30.5%). Alcohol dependency occurred only in group 2. The differences between group 1 and group 2 applied to both lifetime and 12-month prevalence rates (data not shown). Moreover, the 12-month figures were very close to the lifetime figures, e.g., 12-month versus lifetime prevalence for one or more psychiatric disorder, group 1: 39.9% to 42.0%; group 2: 61.6% to 66.2%.

Relationship Between Risk Factors and Psychopathology

The effects of preselected risk factors (e.g., adverse life events) were estimated by means of univariate logistic regression analyses (not shown). These analyses revealed significant estimates for female sex, higher age, adverse life event in three periods, and being a member of group 2. In addition, we used multivariate logistic regression analysis to correct for mutual effects of these risk factors on the outcome variables. PTSD was excluded from this analysis because no significant difference was found between group 1 and group 2 (Table 4).

TABLE 2. Sociodemographic Characteristics of At-Random Samples of Iraqi Asylum Seekers Arrived <6 Months (Group 1) Versus >2 Years (Group 2) in The Netherlands, 2000 to 2001

Variables	Group 1 (N = 143)	Group 2 (N = 151)	Total (N = 294)	p Value
Sex, %				$p < .0005$; $\chi^2(1) = 27.31$
Male	49.7	78.8	64.6	
Female	50.3	21.2	35.4	
Age, %				$p = .003$; $\chi^2(4) = 16.35$
18–24 yr	21.7	9.3	15.3	
25–34 yr	42.0	49.0	45.6	
35–44 yr	14.7	25.8	20.4	
45–64 yr	14.0	13.2	13.6	
>64 yr	7.7	2.6	5.1	
Ethnicity, %				$p = .008$; $\chi^2(3) = 11.80$
Arabic	30.8	32.5	31.6	
Kurdish	48.3	53.0	50.7	
Armenian	11.9	2.0	6.8	
Other	9.1	12.6	10.9	
Marital status, %				NS
Married	60.8	70.2	65.6	
Widow/widower	7.7	5.3	6.5	
Divorced	1.4	3.3	2.4	
Never been married	30.1	21.2	25.5	
Children				
Having children, %	52.4	59.6	56.1	NS
Number of children, mean (SD)	3.15 (2.46)	3.03 (1.82)	3.08 (2.13)	NS
Literacy, %				
Reading	83.9	89.4	86.7	NS
Writing	81.1	87.7	85.0	NS
Highest education, %				NS
University	21.8	25.7	20.7	
College	12.6	13.2	11.2	
High school	19.3	19.1	16.7	
Middle school	17.6	16.2	14.6	
Primary school	19.3	18.4	16.3	
No school or only Koran school	9.2	7.4	7.1	
Years of education, mean (SD)	9.28 (2.51)	9.31 (2.58)	9.30 (2.54)	NS
Social position in Iraq, self-rating, %				NS
Low	16.9	14.6	15.7	
Average	68.3	62.9	65.5	
High	14.8	22.5	18.8	
Dutch language skills, %				$p < .0005$; $\chi^2(4) = 151.3$
None	78.3	9.9	43.2	
A little	18.9	41.7	30.6	
Fairly	2.8	40.2	21.5	
Good	0.7	7.9	4.4	
Very good	0.0	0.7	0.3	
Psychiatric problems in history, %				NS
Psychiatric history, family	7.0	13.2	10.2	
Alcoholic parent	7.0	10.6	8.8	
Psychiatric problems, self	0	0	0	
Religion, %				$p = .005$; $\chi^2(3) = 12.73$
Sji'it Muslim	18.6	17.6	18.1	
Sunni Muslim	50.0	49.3	49.7	
Christian	24.3	13.5	18.8	
Other	7.1	19,6	13,3	
Stay in months, mean (SD)	2.51 (1.16)	36.77 (6.3)	20.12 (17.76)	$p < .0005$; T(292) = 63.66

NS = not significant: $p \geq .05$.

TABLE 3.   Prevalence of Experienced Adverse Life Events in At-Random Samples of Iraqi Asylum Seekers Arrived <6 Months (Group 1) Versus >2 Years (Group 2) in The Netherlands, 2000 to 2001

Adverse life events prevalence (%)	Group 1 (N = 143)	Group 2 (N = 151)	Total (N = 294)	p Value
Youth domestic stress[a]	17.5	27.2	22.4	NS
Death in family	88.1	92.1	90.1	NS
Death, child	7.0	8.6	7.8	NS
Torture	24.5	36.4	30.6	$p = .026; \chi^2 (1) = 4.94$
Other adverse life events				
Until 13th year[a]	22.4	37.1	29.9	$p = .006; \chi^2 (1) = 7.58$
Between 13th year and departure[a]	61.5	73.5	67.7	$p = .028; \chi^2 (1) = 4.81$
Between departure and arrival[a]	23.1	51.0	37.4	$p < .0005; \chi^2 (1) = 24.44$
After arrival[a]	14.0	46.4	30.6	$p < .0005; \chi^2 (1) = 36.23$

NS = not significant: $p \geq .05$.
[a]The events are dichotomized: "not experienced" against "at least one item of the list experienced."

Table 5 shows the relationship between the other psychiatric disorders and risk factors from the multivariate logistic regression analyses in the total sample. In general, female sex and group membership (i.e., being a participant in group 2) had the highest adjusted odds ratios for one or more psychiatric disorders. Group membership had a significant relationship with all types of psychopathology. Group membership and adverse life events after arrival had higher adjusted odd ratios, than earlier experienced adverse life events for all types of psychopathology.

DISCUSSION

To our knowledge, this is the first national community-based study among asylum seekers in a Western country. By examining two groups prestratified on the basis of their length of stay in a host country, we tried to assess the impact of a

TABLE 4.   Lifetime Prevalence of Psychiatric Disorders in At-Random Samples of Iraqi Refugees Arrived <6 Months (Group 1) Versus >2 Years (Group 2) in The Netherlands, 2000 to 2001

Diagnosis (%)	Group 1 (N = 143)	Group 2 (N = 151)	Total (N = 294)	p Value
Anxiety disorder (cluster)	14.0	30.5	22.4	$p = .001; \chi^2 (1) = 11.45$
Panic disorder and agoraphobia	3.5	6.0	4.8	NS
Phobias	11.9	16.6	14.3	NS
Obsessive compulsive disorder	0	2.6	1.4	NS
Generalized anxiety disorder	4.9	8.6	6.8	NS
Depressive disorder (cluster)	25.2	43.7	34.7	$p = .001; \chi^2 (1) = 11.14$
Major depression, single	22.4	35.1	28.9	$p = .016; \chi^2 (1) = 5.78$
Major depression, recurrent	2.1	6.6	4.4	NS
Dysthymia	0.7	4.6	2.7	$p = .038; \chi^2 (1) = 4.30$
Somatoform disorder (cluster)	4.9	13.2	9.2	$p = .013; \chi^2 (1) = 6.14$
Somatization disorder	0	0.7	0.3	NS
Conversion disorder	2.8	9.3	6.1	$p = .021; \chi^2 (1) = 5.36$
Pain disorder	1.4	11.3	6.5	$p = .001; \chi^2 (1) = 11.81$
Hypochondriasis	0.7	2.6	1.7	NS
PTSD	31.5	41.7	36.7	NS
Alcohol dependence	0	6.6	3.4	$p = .002; \chi^2 (1) = 9.80$
Alcohol abuse	0	0	0	NS
One or more psychiatric disorders	42.0	66.2	54.4	$p < .0005; \chi^2 (1) = 17.44$

NS = not significant: $p \geq .05$.

TABLE 5. Multivariate Logistic Regression of Variables Related to Lifetime Prevalence of Psychiatric Disorders of Iraqi Asylum Seekers in The Netherlands ($N = 294$), 2000 to 2001

Psychiatric disorder Variable	Anxiety disorders (cluster)		Depressive disorders (cluster)		Somatoform disorder (cluster)		One or more psychiatric disorders	
	Odds ratio[a]	95% CI	Odds ratio[a]	95% CI	Odds ratio[a]	95% CI	Odds ratio[a]	95% CI
Female sex	3.25	1.54–6.85	1.99	1.06–3.77			2.58	1.32–5.04
Higher age category					1.64	1.09–2.46		
Adverse life events								
Until 13th year[b]	1.28	1.08–1.51					1.28	1.01–1.62
Between 13th year and departure[b]			1.21	1.12–1.30			1.35	1.22–1.49
After arrival[b]	1.77	1.34–2.33	1.47	1.13–1.91	1.17	1.05–1.29	1.66	1.13–2.44
Group 2 membership[c]	2.23	1.09–4.56	1.84	1.02–3.35	3.15	1.16–8.57	2.16	1.15–4.08

[a]The odds ratios are adjusted.
[b]The total numbers (sum scores) of events per period are used in analysis.
[c]Group membership is defined by duration of stay: group 2 ($N = 151$), >2 yr in The Netherlands.

long asylum procedure on their mental health condition. The main finding is that the levels of psychiatric disorders are much higher in the group that was in the asylum procedure for more than 2 years. The results agree with the clinical impression that psychiatric problems worsen during the course of the asylum procedure.

Response and Representatives

We defined the response rate as the ratio of the number of eligible participants to the number of adequate addresses. The number of noncontacts was high in both groups, although the efforts to get in contact with the selected cases were intensive. New addresses were asked for, medical staff of the centers and interviewers tried to trace cases by making inquiries with colleagues and fellow countrymen, and so forth. The high number of noncontacts occurs in many studies among refugees and immigrants (Spring et al., 2003). The high number of noncontacts has an influence on the representativeness of the final samples. The sex ratio and mean age of respondents who participated in the study (*i.e.*, interviewed respondents) did not differ from the original samples (all between-sample comparisons, $p < .05$). Nothing can be said about their health problems; however, there are no reasons, in our view, why these noncontacts would have other levels of psychopathology.

Comparison of Prevalence Rates With Other Studies

There are only a few studies that include or are specifically focused on refugees without a status (asylum seekers). Silove et al. (1997) examined 40 asylum seekers of mixed origin in a sample of convenience. Using the CIDI-PTSD module, 37% met the full criteria of PTSD, and on the HSCL-25, the population had scores for depression and

anxiety that were just below the (regularly used, nonvalidated) cutoff score of 1.75. Steel et al. (1999) performed a study on PTSD among 196 Tamil asylum seekers, refugees, and immigrants in Australia. The mean posttraumatic stress score of the HTQ symptom scale for asylum seekers was significantly higher than that of immigrants but did not differ from the score of the refugees. The average length of stay in Australia of the asylum seekers was 3.7 years.

In community-based studies among refugees (*i.e.*, status holders) living in Western countries, the prevalence rates differ widely. The range for depression varies from 14.3% (Holtz, 1998) to 80% (Carlson and Rosser-Hogan, 1991) and for PTSD from 17% (Hauff and Valgum, 1995) to 86% (Carlson and Rosser-Hogan, 1991). In a recent study in The Netherlands among 51 Afghan refugees (Gernaat et al., 2002), high 12-month prevalence rates were found: 57% had a depressive disorder and 35% a PTSD, measured with the CIDI short version. Different circumstances and trauma history contribute to these differences in prevalence figures, but the variety of sampling methods, procedures, and instruments also influences the results and makes comparison very difficult. None of the studies included instruments to measure somatoform disorders and alcohol-related disorders.

There are several studies among recently arrived refugees that have a study population of more than 100 persons: Chueng (1994) performed a study among 223 Cambodian refugees in New Zealand and reported 12.1% PTSD. Depression was not measured. Thulesius and Hakansson (1999) examined 206 Bosnian refugees in Sweden: the prevalence rate for PTSD was 18% to 33%, and for depression, 20%. Rates for men and women were similar in this study. Mollica et al. (1999) mentioned 26% PTSD and 39% depression among 534 Bosnian refugees in a camp environment in

Croatia using the HTQ and HSCL-25. Sondergaard et al. (2001) studied 86 recently arrived Iraqi refugees and found 37.2% PTSD. Our findings on PTSD among the recently arrived asylum seekers (31.5%) are similar to the findings of the last three studies.

A comparison of prevalence rates for psychiatric disorders between Iraqi asylum seekers (our study) and the general Dutch population (NEMESIS, using the CIDI version 1.1. leading to DSM-III-R diagnosis; Bijl et al., 1998) shows that the lifetime prevalence rates for anxiety and depressive disorders in the recently arrived asylum seekers (group 1) are approximately equal to those of the general Dutch population. However, asylum seekers who arrived more than 2 years ago (group 2) have much higher lifetime prevalence rates than the Dutch population: 43.7% versus 19.0% for depressive disorders, and 30.5% versus 19.3% for anxiety disorders. The 12-month prevalence rates also differ significantly: 39.1% versus 7.6% for depressive disorders, 20.5% versus 12.4% for anxiety disorders, and 23.5% versus 61.6% for one or more psychiatric disorder. PTSD and somatoform disorders were not included in the NEMESIS. The National Comorbidity Survey (Kessler et al., 1995) in the United States reported a lifetime prevalence of PTSD in the general population of 7.8% (also measured with the CIDI). In both groups of Iraqi asylum seekers, the percentages were much higher (Table 4). This seems to be self-evident, because a much higher percentage of asylum seekers is traumatized than the general population, but it is important to emphasize this finding because there is a persistent belief nowadays that almost all asylum seekers are coming to the West for economic reasons.

Somatoform Disorders

The percentage of participants with a somatoform disorder was strikingly high (Table 4). Compared with the prevalence rate in the general population (1.0%) reported by Swartz et al. (1986), the rate in group 1 is increased (4.9%), but in group 2, it is extremely high (13.2%). Moreover, the prevalence rate of conversion disorder and pain disorder is much higher in group 2 (11.3% *vs.* 1.4% in group 1). Van Ommeren et al. (2001) found even higher levels of a pain disorder in Bhutanese refugees in Nepal. More than half of the tortured group ($N = 418$) reported a lifetime history of persistent pain (measured with the CIDI). One out of four of the nontortured group ($N = 392$) had such a disorder. Van Ommeren et al. (2001) used the ICD-10, whereas the prevalence rates in our study are based on the DSM-IV criteria. This might be one of the factors that account for higher figures found by Van Ommeren et al. (2001).

Because somatoform disorders contribute considerably to the burden of health problems and influence help-seeking behavior, they need more attention and study.

Duration of Stay and Postmigration Problems

Univariate logistic regression analyses revealed several risk factors for postmigration morbidity. After adjusting by means of multivariate logistic analyses for mutual effects on the outcome variables of sex, age, and adverse life events, it appeared that being a member of group 2, as such, implied a higher risk for overall pathology (one or more psychiatric disorders), anxiety, depressive, and somatoform disorders (Table 5). Group membership was defined by the duration of stay in The Netherlands. As explained earlier (see Methods), the same questionnaire of adverse life events was used in all four periods. The measured adverse life events after arrival therefore cover only a limited number of all possible postmigration events and stressors. The factor duration of stay probably stands for cumulated postmigration stress factors (*e.g.*, fear of being sent away, uncertainty of the duration or the outcome of the asylum procedure, lack of work, lack of money, lack of proper housing, missing the family or worrying about the family in their country of origin, worries about the children). In a separate article, we will present a detailed analysis of the relationship between psychopathology and all postmigration living problems for our study samples.

Postmigration Psychopathology

There are a few longitudinal community studies on the course of psychopathology among refugees. Hauff et al. (1995) followed a group of 145 Vietnamese refugees in Norway. He found the same score of psychological distress (SCL-90) and rate of depression (PSE) after 3 years of settlement compared with the figures obtained on their arrival. Hinton et al. (1997) studied 114 Vietnamese and Chinese refugees in the United States. Using the HSCL-25, he found no significant change in the mean depression scores in either group, comparing time 1 (shortly after arrival) and time 2 (after 12–18 months). Beiser and Hou (2001) found a dramatic decline of depression in the first decade after arrival in a study of 1170 South Asian refugees resettling in Canada. Weine et al. (1998) studied 34 Bosnians on the prevalence of PTSD. Shortly after arrival in the United States, the rate was 74%; 1 year later, it was 44%. A study from Westermeyer et al. (1984) among Hmong refugees at 1.5 and 3.5 years after arrival in the United States showed considerable improvement on psychiatric self-rating scales.

Although several studies report a stabilization or a decline of psychopathology in adult refugees after settlement in the host country, data on asylum seekers are lacking. The results of our cross-sectional study suggest that there is an increase in psychopathology among asylum seekers after several years of stay in a host country.

An alternative explanation is that the higher levels of psychopathology in long-stay asylum seekers compared with recently arrived asylum seekers are caused by the selective attrition of Iraqi asylum seekers. The comparatively healthy

individuals could have left the procedure, either because of a refusal of a residence permit or because they were fed up with their situation and applied for asylum in another country or went back to Iraq. We think this explanation is unlikely for the following reasons: (1) leaving the center and the procedure before the final result of the procedure depends on social networks, financial means, and asylum procedure in other countries rather than on mental well-being; (2) in recent years, poor mental health per se seldom was a reason for the authorities to prolong the procedure, so the chances of being refused were equal between the healthy and the unhealthy; and (3) the prevalence rates of PTSD in groups 1 and 2 do not differ significantly. An anonymous reviewer suggested that perhaps asylum seekers with less trauma were more likely not to continue the asylum process. However, in the past few years in The Netherlands, the IND (immigration services) has not been considering past traumas as a reason to prolong the procedure or provide a residence permit. The criteria were and are based on the present situation in the country of origin.

Another explanation of the results of our study could be that the asylum seekers might have had the idea that they would have more chances for a resident permit if they presented a lot of mental complaints. Although this explanation cannot be completely rejected, we do not think this has influenced our results considerably because (1) the levels of psychiatric disorders in group 1 were, except for PTSD, almost equal to the levels in the general Dutch population; (2) the impact, if it exists, would have an effect on both groups, so for the comparison, it would have little consequence; (3) in all written and oral information for the participants, the nonexisting relationship between the study and any legal procedure was strongly stated and the medical staff was used as a channel to contact the participants; and (4) anonymity was guaranteed.

CONCLUSION

In a community-based, at-random study, we found significantly higher levels of psychiatric disorders in Iraqi asylum seekers staying in The Netherlands for more than 2 years compared with those who just arrived. The two groups differed on a variety of risk factors (including adverse life events), and we analyzed the relative contribution of these risk factors. It appeared that a long asylum procedure was the most important risk factor after female sex. The risk of a long asylum procedure was even higher than the contribution of the risk of adverse life events in Iraq. Whereas studies among refugees (*i.e.*, status holders) show a stabilization or a decline of psychopathology after arrival in the host country, this study suggests a significant increase of psychopathology in asylum seekers. These findings show that government policies are of major importance to the health of asylum seekers.

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