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Prevalence and Predictors of Health Service Use among Iraqi Asylum Seekers in the Netherlands

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ORIGINAL PAPER

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Prevalence and predictors of health service use among Iraqi asylum seekers in the Netherlands

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Abstract *Background* A long asylum procedure is associated with higher prevalence rates of psychiatric disorders, lower quality of life, higher disability and more physical health problems. Additional knowledge about health seeking behavior is necessary to guide governments and health professionals in their policies. *Objective* To measure service use among one of the biggest asylum seekers population in the Netherlands and to assess its relationships with predisposing and need variables (including post-migration living problems). *Method* Two groups were randomly selected: Group 1 (n = 143), less than 6 months and Group 2 (n = 151), more than 2 years in the Netherlands. Respondents were interviewed with fully structured, culturally validated, translated questionnaires, which contained instruments to measure psychiatric disorders, quality of life, disability, physical health and post-migration living problems. Use of preventive and curative (physical and mental) health services was measured and the relationship with predisposing and need risk factors was estimated with univariate and multivariate logistic regression analyses. *Results* A long asylum procedure is not associated with higher service use, except for mental health service use and drug use. Use of mental health services is, however, low compared to the prevalence of psychiatric disorders. Low quality of perceived general health and functional disability are the most important predictors of services use. Psychopathology predicts use of a medical specialist (non-psychiatrist), but does not predict mental health service use. *Conclusion* A high percentage of asylum seekers with a psychiatric disorder is not getting adequate treatment. There is a mismatch between the type of health problem and the type of health service use. The various health services should work together in education, detection, referral and care in order to provide help to this group of patients.

Keywords asylum seekers – service use – drug consumption – psychiatric disorders – Iraq

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Introduction

Mental health service use differs among populations and geographical areas [3, 15, 25]. Refugees and asylum seekers have high prevalence rates of psychiatric disorders [6, 12] and adequate use of health services is important. Literature on this issue is growing, but still limited [8, 9, 16]. Health policies, including accessibility of service for asylum seekers differ between European Union countries [19]. In the Netherlands refugees have direct access to the general

practitioner, while asylum seekers can only enter the curative health care system after a screening by a nurse or doctor in the asylum seeker center. This system has been criticized [18], but others claim that these professionals, involved in triage after receiving training in cultural competence, may prevent inadequate referrals.

Health service use, according to the Anderson behavioral model [1, 2], is a function of three sets of variables: predisposition, enablement and need. Predisposition includes demographic factors such as age, gender, religion, cultural factors, social network, and support. Enabling factors facilitate service use and include individual social functioning, availability of services, and costs. The third set, i.e. the need variables, consists of health related factors. Both objective (type and severity of a health problem), and subjective health indicators (disability and perceived health) belong to the need variables. McCracken et al. [15] used the above model in a community survey on depression in five European countries, and found that severity of depression, lower perceived health status, social dysfunctioning, and low level of social support were significant predictors of use. Kamperman et al. [11] used the model in a study among migrants in Amsterdam and found that there were migrant-specific mechanisms in health care consumption. Higher levels of acculturation and lower level of cultural traditionalism increased the use of mental health care facilities.

In these health service use studies, a variety of potential predictors, such as psychopathology, physical diseases, physical, and mental well-being, have been included. But disability and quality of life were not included. Nor is there a study that compared groups from the same country of origin, that differ in length of stay in a host country.

In a national community study among Iraqi asylum seekers (n = 294) in the Netherlands [12–14] we measured prevalence rates of psychiatric disorders, quality of life, disability, and physical health problems in relationship with pre- and post-migrations stressors. The study focuses on the risks of a long asylum procedure and showed that asylum seekers who stayed more than 2 years in the Netherlands had significantly higher overall prevalence rates of psychiatric disorders (66.2%), than those who arrived recently (42.0%). A long asylum procedure was an important independent risk factor for a psychiatric disorder with an odds ratio of 2.16 (CI 1.15–4.08). This ratio was higher than the odds ratio for premigration stressors, such as exposure to human rights violations. In addition the 'long stay' group had significantly lower quality of life, higher disability, and higher levels of physical health complaints. In the Anderson model these health indicators can be considered as need factors.

The aim of this paper is to examine patterns and predictors of health service use and their relationship with length of stay. The research questions are: (a) what is the prevalence of service use of Iraqi asylum seekers in the Netherlands, (b) is a long asylum procedure associated with a higher prevalence of service use, (c) what is the relationship between psychopathology and service use, and (d) which predisposing and other need variables predict service use. We hypothesize that a long asylum procedure is associated with a higher prevalence of service use and that higher levels of psychopathology are related to higher levels of service use.

Methods

A comprehensive description of used methods is provided in a previous article [12]. A summary is given below.

From the entire population of adult Iraqi asylum seekers, two groups were selected based on their length of stay in the Netherlands. Personal data on these groups was obtained from the Agency for the Reception of Asylum Seekers (COA). Group 1 was selected on the criterion that persons had been living in the Netherlands for less than 6 months (between September 2000 and November 2001). From the randomly selected 362 respondents, data could be used from 143 interviews. Group 2 was selected on the criterion that they were living in the Netherlands for at least 2 years. On the chosen date of May 31st, 1999, the COA found that 2,352 Iraqi asylum seekers fulfilled this criterion. From the randomly selected 474 respondents, data could be used from 151 interviews.

The questionnaire about service use—in the 2 months prior to the interview—included regular services as well as alternative services. The studied regular services are: out-patient services: preventive healthcare (nurse/doctor in center), primary healthcare (general practitioner), generic healthcare (medical specialist, non-psychiatric), social care (social worker), psychiatric services (mental health professional); in-patient services: hospital admission physical health, hospital admission mental health; use of drugs (any drugs, hypnotics, anxiolytics and analgetics). Examples of drug names were given to be sure the drugs were put in the right category. As mentioned above, in the Netherlands medical staff is present in all asylum seekers centers. They perform health assessments of recently arrived asylum seekers, facilitate entry into primary health care, and refer to the general or mental health services. Their services can be classified as gateway services [7]. The studied alternative services are: use of religious helpers or rituals, and herb-doctors or herbs.

Respondents' predisposition to service use was measured by age, gender, religion, ethnicity, and length of stay (membership Group 1 or Group 2). Enabling factors were not measured: regular health services for asylum seekers are available and accessible in the Netherlands without financial obstacles. Need factors include: psychiatric disorders, physical health, quality of life, and disability, while post-migration living problems (PMLP) were added as a special set of need variables. Psychiatric disorders were measured with the WHO-CIDI, version 2.1 [28] and cluster diagnoses were used in the analyses. Physical health was assessed with 22 items, dealing with: perceived physical health, physical handicaps, chronic physical diseases (e.g. lung disease, epilepsy, diabetes), and chronic physical complaints (e.g. stomach problems, joint problems, headache more than 3 months). Quality of life (Qol) was assessed with the WHOQOL-BREF [22]. The first two single questions i.e.: 'How would you rate your quality of life?' ('overall Qol') and 'How satisfied are you with your health?' ('Qol perceived general health') were used in the current study. Disability (Brief Disability Questionnaire, VonKorff [26] was measured in two dimensions: total disability (total of score of 11 items on physical and social role impairments), and the total number of days with serious impairment in the last month (BDQ-days). Post-Migration Living Problems (PMLP) were assessed with a checklist, adapted from Silove et al. [21]. The 24

Table 1 Socio-demographic, health characteristics and post-migration living problems in at random samples of Iraqi asylum seekers arrived <6 months (Group 1) versus >2 years (Group 2) in the Netherlands, 2000–2001

Variables	Group 1 (n = 143)	Group 2 (n = 151)	Total (n = 294)	P-value
Stay in months (mean, SD)	2.51 (1.16)	36.77 (6.30)	20.12 (17.76)	$P < 0.0005$, $t(292) = 63.66$
Sex (%)				$P < 0.0005$, $\chi^2(1) = 27.31$
Male	49.7	78.8	64.6	
Female	50.3	21.2	35.4	
Age (%)				$P = 0.003$, $\chi^2(4) = 16.35$
18–24 years	21.7	9.3	15.3	
25–34 years	42.0	49.0	45.6	
35–44 years	14.7	25.8	20.4	
>45 years	21.7	15.8	18.7	
One or more psychiatric disorder (%)	42.0	66.2	54.4	$P < 0.0005$, $\chi^2(1) = 17.44$
Overall quality of life (mean, SD)[a]	2.88 (0.99)	2.23 (1.14)	2.55 (1.11)	$P < 0.0005$, $Z(294) = -5.29$
Perceived QoI general health (mean, SD)[b]	3.06 (1.15)	2.74 (1.27)	2.89 (1.22)	$P = 0.017$, $Z(294) = -2.39$
Physical and role disability (mean, SD)[c]	17.31 (7.43)	19.25 (6.77)	18.30 (7.15)	$P = 0.020$, $t(292) = -2.34$
Days of disability (mean, SD)[d]	5.37 (8.24)	7.68 (9.17)	6.56 (8.80)	$P = 0.024$, $t(292) = -2.27$
Physical diseases (mean, SD)[e]	0.85 (1.18)	0.84 (0.98)	0.85 (1.08)	n.s.
Physical complaints (mean, SD)[e]	0.83 (1.38)	1.62 (1.58)	1.23 (1.54)	$P = 0.0005$, $t(292) = 4.52$
Post-migration living problems				
Family related issues (mean, SD)[f]	36.54 (26.55)	52.81 (24.24)	44.90 (26.62)	$P < 0.0005$, $t(292) = -5.49$
Discrimination (mean, SD)[f]	2.05 (7.92)	11.17 (21.01)	6.74 (16.65)	$P < 0.0005$, $t(292) = -4.87$
Asylum proc. related issues (mean, SD)[f]	48.58 (25.35)	60.13 (23.23)	54.51 (24.97)	$P < 0.0005$, $t(292) = -4.07$
Socioeconomic living cond. (mean, SD)[f]	22.35 (19.16)	32.48 (21.08)	27.55 (20.76)	$P < 0.0005$, $t(292) = -4.30$
Socio-religious aspects (mean, SD)[f]	12.96 (17.46)	14.48 (17.19)	13.74 (17.31)	n.s.

n.s.: not significant $P \geq 0.05$
[a]Scale of 1 (very bad)–5 (very good)
[b]Scale of 1 (very bad)–100 (very good)
[c]Range: 11 (no impairment at all)–33 (serious impairment)
[d]Range: 0–31 (number of days of serious impairment in last months)
[e]Range: diseases: 0–12; complaints: 0–6
[f]Range: 0 (not worried)–100 (extremely worried about the issues)

items were clustered, based on a factor analysis [13] as family issues, discrimination, asylum procedure, socioeconomic living conditions, and religious aspects. The items 'lack of work' and 'work below level' loaded on different factors and were analyzed as separate items.

The used Iraqi-Arabic composite questionnaire is based on a Palestinian-Arabic version [4, 5] and was culturally validated and translated with the help of a focus group. Oral interviews were taken by trained Iraqis.

Statistics

Differences between the two groups with respect to socio-demographics, psychiatric disorders, service use, and drug consumption were calculated with the χ^2-test. Univariate relationships between predisposing and need variables were assessed with a correlation matrix. Ethnicity, religion, and marital status did not show a significant ($P < 0.05$) correlation with any of the health services. All other variables were entered into multivariate logistic regression analyses as: predisposing variables (study group, sex and age), need variables (one or more psychiatric disorders, overall quality of life, perceived quality of general health, disability (2 items), physical health (2 items), and a special set of need variables: the PMLP (7 variables). The same independent variables were used in each analysis, in line with the Anderson model. The dependent/outcome variables were: use of preventive service (nurse/doctor in the center), general practitioner, medical specialist (non-psychiatrist), social worker, mental health professional, and use of any drugs. We used a three-step procedure: in the first step each set of variables (predisposing factors, need factors and PMLP) was analyzed separately; in the second step all variables entered one analysis, that way the risk of one variable was corrected for the risks of all other variables. In step one and two, the entire dataset (n = 294) was used. In the third step the analysis was done for Group 1 and Group 2 separately in order to assess the differences of predictors between asylum seekers that had recently arrived (Group 1) and those who had stayed for more than 2 years in the asylum procedure (Group 2). Adjusted Odds Ratios (ORs), 95% confidence intervals (CIs), and P values were calculated (only the ratios with confidence intervals higher or lower than 1 are shown in the tables). Differences were considered significant at $P < 0.05$. All analyses were performed with SPSS version 10 [20].

Results

Socio-demographics, health and health related variables

The two study groups differed on several socio-demographic characteristics (Table 1). Group 1 contained more subjects younger than 24 years of age, and more females. The average time of stay in the Netherlands of Group 2 was more than 3 years. On the characteristics literacy, social status in Iraq, and psychiatric problems in the family, the two groups did not differ (not shown in the table, c.f. [12]. Group 2 had higher scores on prevalence of psychiatric disorders, disability and physical complaints, and lower quality of life score (Table 1). Except social-religious items, all clustered and non-clustered post-migration living problems were significantly higher in Group 2.

Table 2 Health service use and other help seeking behavior in at random samples of Iraqi asylum seekers arrived <6 months (Group 1) and >2 years (Group 2) in the Netherlands, 2000–2001

Use of services last 2 months	Group 1 $n = 143$ (%)	Group 2 $n = 151$ (%)	Total $n = 294$ (%)	P value
Use of any health service[a]	76.9	66.2	71.4	$P = 0.042$, $\chi^2(1) = 4.119$[b]
Use of any out-patient (o-p) service	74.1	52.3	62.9	$P < 0.005$, $\chi^2(1) = 14.992$[b]
Use of any o-p curative service	38.5	36.4	37.4	n.s.
Use of preventive o-p service				
Nurse/doctor in center	72.0	39.7	55.4	$P < 0005$, $\chi^2(1) = 31.004$[b]
Use of o-p curative service				
General practitioner	32.9	25.8	29.3	n.s.
Medical specialist in hospital	12.6	17.9	15.3	n.s.
Social worker	5.6	6.6	6.1	n.s.
Mental health worker	1.4	9.3	5.4	$P = 0.003$, $\chi^2(1) = 8.846$
Use of in-patient service				
Hospital admission physical health	1.4	4.0	2.7	n.s
Hospital admission mental health	0.0	0.7	0.3	n.s
Use of any drugs	32.2	45.7	39.1	$P = 0.018$, $\chi^2(1) = 5.643$
Use of anxiolytics	10.5	22.5	16.7	$P = 0.006$, $\chi^2(1) = 7.649$
Use of hypnotics	11.9	21.2	16.7	$P = 0.032$, $\chi^2(1) = 4.578$
Use of analgetics	23.8	37.7	31.0	$P = 0.010$, $\chi^2(1) = 6.707$

n.s.: $P > 0.05$
[a]Includes all regular and alternative services, including drugs, religious rituals/treatment and herbs
[b]Group 1 more than group 2, see text

Health service use

Table 2 shows the prevalence of service use in the 2 months prior to the interview. Overall, the most frequently used service was the preventive healthcare service, followed by the general practitioner. Sixteen (5.4%) respondents visited a mental health professional. Group 1 visited the preventive healthcare services in the center more often than Group 2 (72.0% vs. 39.7%) and Group 2 visited the mental health services more often than Group 1 (9.3% vs. 1.4%). More than 39% of the respondents used drugs, 31.0% used analgetics. Overall drug consumption was higher in Group 2 (45.7% vs. 32.2%). Use of alternative services and treatments was very low, and there was no difference between the two groups: contact religious helper (2.7%), use of religious rituals or treatment (5.1%), contact with herbal doctor (0.7%), use of herbal treatment (0.3%).

Relationship between psychopathology and service use

Table 3 shows the univariate relationships between having 'one or more psychiatric disorder' and service use. Overall, respondents with psychopathology used significantly more services (70.0% vs. 54.5%), both curative and preventive ones. There was no significant difference in use of the services of the general practitioner, this was the case in both groups. Respondents with psychopathology visited a medical specialist (non-psychiatrist) much more often in Group 1, but not in Group 2 ($P > 0.05$).

The use of drugs in respondents with psychopathology was higher in both groups, compared to those without psychopathology. Almost 60% of the respondents in Group 2 with psychopathology used drugs, versus 21.6% of those without psychopathology. Also the use of analgetics was higher, especially in Group 2 (48% vs. 17.6%).

Predictors of service use

In the 'step 2' analyses (Table 4), with all the independent variables in one analysis, the use of preventive healthcare services was predicted by Group 1 membership, low perceived quality of general health, and physical diseases. Visits to a general practitioner were predicted by age, low perceived quality of general health, and days of disability in the last month. Use of the services of a medical specialist (non-psychiatrist) was predicted by having one or more psychiatric disorders, high overall quality of life, low perceived quality of general health and physical diseases. Use of a social worker was predicted by low total disability and days of disability in the last month. Two variables predicted service use of a mental health worker: Group 2 membership, and low perceived quality of general health. Use of any drugs was predicted by age, and low perceived quality of general health. Use of analgetics (not in table) was predicted by age, lower perceived quality of general health, and physical diseases. The variables sex, physical complaints, and post-migration living problems (PMLP) did not predict any type of service use in the step 2 analyses (Group 1 and 2 together).

Table 3 Use of services in respondents with and without one or more psychiatric disorder in Iraqi asylum seekers arrived <6 months (Group 1), and >2 years (Group 2) in the Netherlands, 2000–2001

One or more psychiatric disorder	Group 1 $n = 143$		Group 2 $n = 151$		Total $n = 294$	
	Yes $n = 60$, %	No $n = 83$, %	Yes $n = 100$, %	No $n = 51$, %	Yes $n = 160$, %	No $n = 143$, %
Use of services last 2 months						
Use of any health service[a]	88.3	68.7*	76.0	47.1*	80.6	60.4*
Use of any out patient (o-p) service	86.7	65.1*	60.0	37.3*	70.0	54.5*
Use of any o-p curative service	53.3	27.7*	43.0	23.5*	46.9	26.1*
Use of preventive o-p service						
Nurse/doctor in center	83.3	63.9*	47.0	25.5*	60.6	49.3
Use of o-p curative service						
General practitioner	41.7	26.5	29.0	19.6	33.8	23.9
Medical specialist (non-psychiatrist)	26.7	2.4*	21.0	11.8	23.1	6.0*
Social worker	8.3	3.6	10.0	0.0*	9.4	2.2*
Mental health worker	1.7	1.2	13.0	2.0*	8.8	1.5*
Use of any drugs	45.0	22.9*	58.0	21.6*	53.1	22.4*
Anxiolytics	18.3	4.8*	31.0	5.9*	26.3	5.2*
Hypnotics	18.3	7.2*	29.0	5.9*	25.0	6.7*
Analgetics	31.7	18.1	48.0	17.6*	41.9	17.9*

*$P < 0.05$
[a]Includes all regular and alternative services, including drugs, religious rituals/treatment and herbs

Table 4 Multivariate logistic regression of predisposing and need (incl. PMLP: post-migration living problems) variables related to service use of Iraqi asylum seeker in the Netherlands ($N = 294$), 2000–2001

Service	Nurse/Doctor center		General practitioner		Medical spec. (non-psychiatry)		Social worker		Mental health worker		Use of any drugs	
	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)
Predisposing factors												
Group 2 membership[b]	0.18	0.08–0.37							5.56	1.08–28.69		
Age (older age)			1.03	1.00–1.05							1.05	1.02–1.08
Need factors												
One or more psychiatric disorder					1.34	1.18–2.76						
Overall Quality of life					1.80	1.18–2.76						
Perceived quality of general health	0.44	0.30–0.64	0.51	0.36–0.73	0.54	0.35–0.84			0.35	0.17–0.77	0.49	0.33–0.71
Disability[c]							0.89	0.80–0.99				
Disability days[d]			1.04	1.001–1.08			1.07	1.01–1.15				
Physical diseases	1.48	1.01–2.16			1.06	1.02–1.11					2.07	1.41–3.05
PMLP												

[a]OR: Odds ratios are adjusted
[b]Group 2 membership >2 year in asylum procedure
[c]Disability: total score of Brief Disability Questionnaire
[d]Disability days in last month

Tables 5 and 6 show the 'step 3' analyses for Group 1 (<6 months) and Group 2 (>2 years in the Netherlands) separately. In both groups a lower score on perceived quality of general health predicted almost all types of health services as well as drug use. In Group 1, but not in Group 2, use of the services of a medical specialist (non-psychiatrist) was also predicted by physical diseases, and by having a psychiatric disorder (Table 5). In Group 2, but not in Group 1, two PMLP (asylum procedure and socio-economic living conditions) predicted visits to the nurse/doctor in the center, the general practitioner, and/or a medical specialist (Table 6). In Group 2, but not in Group 1, number of days of disability in the last month and physical complaints predicted the use of analgetics (not in table).

Discussion

The main findings of this study are: There is a high overall service use among Iraqi asylum seekers in the Netherlands. The hypothesis that a long asylum procedure is associated with higher levels of service use, is not confirmed by the results, except for mental health service use and drug use. Psychopathology is related to a higher level of service use (second hypothesis), but when corrected for the influence of

Table 5 Multivariate logistic regression of predisposing and need (incl. PMLP: post-migration living problems) variables related to service use of Iraqi asylum seeker, <6 months in the Netherlands (Group 1: $N = 143$), 2000–2001

Service	Nurse/doctor center		General practitioner		Medical spec. (non-psychiatry)		Mental health worker		Use of any drugs	
	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)		
Predisposing factors										
Age (older age)									1.06	1.01–1.10
Need factors										
One or more psychiatric disorder					1.93	1.18–3.16				
Overall quality of life					2.49	1.05–3.16			3.16	1.29–7.75
Perceived quality of general health	0.25	0.11–0.56	0.55	0.31–0.97	0.41	0.18–0.96			0.29	0.12–0.74
Disability days[b]			1.08	1.01–1.15						
Physical diseases					2.65	1.33–5.28			2.71	1.33–5.54
PLMP										

[a]OR: Odds ratios are adjusted
[b]Disability days in last month

other predisposing and need factors, other factors, such as: high role and functional disability, and low perceived quality of general health, are more important predictors. Moreover having one or more psychiatric disorder(s) predicts the use of a medical specialist (non-psychiatrist), but does not predict mental health service use. The overall use of mental health service use is very low compared to the high prevalence of psychiatric disorder: over 80% of the asylum seekers with a psychiatric disorder used any health service, but only 8.8% visited a mental health service.

Next paragraphs will discuss the four research questions.

Prevalence of service use, relationship with length of stay

The preventive healthcare services are the most frequently visited services in both groups. As explained earlier (see "Methods"), in the Netherlands medical staff is present in all asylum seeker centers. Shortly after arrival, all asylum seekers are supposed to get a preventive medical screening by the doctor in the center doing triage for e.g. tuberculosis and AIDS. This probably explains the higher use of this service by Group 1. Gerritsen et al. [9] found that 63.7% of the asylum seekers from Iran, Afghanistan and Somalia reported a visit to the preventive healthcare services in the center. Their average length of stay was 3.4 years, comparable with Group 2. The rate of the Iraqi group in this study is much lower: 39.7%, suggesting a difference in use of this service between asylum seekers with different origins.

In contradiction to the hypothesis, the use of a general practitioner in Group 2 was not higher compared to Group 1. The use (30%) is even lower compared to the general Dutch population, which is 42%, and even more so compared to immigrants: 51% [27]. Also Van Oort et al. [24] found that asylum seekers visit the general practitioner less often than the general Dutch population: number of contacts per year 3.5 vs. 4.5. So, despite the higher prevalence of health problems, asylum seekers make less use of the general practitioner. Furthermore, use of a medical specialist is not higher in Group 2. This is explained

Table 6 Multivariate logistic regression of predisposing and need (incl. PMLP: post-migration living problems) variables related to service use of Iraqi asylum seeker, >2 years in the Netherlands (Group 2: $N = 151$), 2000–2001

Service	Nurse/doctor center		General practitioner		Medical spec. (non-psychiatry)		Mental health worker		Use of any drugs	
	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)	OR[a]	CI (95%)
Predisposing factors										
Age (older age)			1.04	1.00–1.09						
Need factors										
Perceived quality of general health	0.54	034–0.87	0.43	0.25–0.72	0.54	0.31–0.96	0.41	0.18–0.88	0.58	0.37–0.93
Disability[b]	0.92	0.86–0.99								
Disability days[c]					1.07	1.01–1.13				
Physical diseases			0.56	0.32–0.99					2.16	1.26–3.79
PMLP										
Asylum procedure			1.38	1.04–1.83	0.68	0.51–0.92				
Socio-economic l.c.	1.19	1.02–1.38			1.23	1.00–1.50				

[a]OR: Odds ratio's are adjusted
[b]Disability: total score of Brief Disability Questionnaire
[c]Disability days in last month

by the fact that in the Dutch system a patient can only visit a medical specialist after referral by a general practitioner.

Drug consumption is significantly higher in Group 2 (45.7%), compared to Group 1 (32.2%), confirming the hypothesis. Gerritsen et al. [9] found an even higher rate (57.8%). The high use of analgetics is striking (see later).

Use of alternative services is very low. Maybe Iraqi asylum seekers are not interested in these services, but even in case they would be, these services are probably not easily available and accessible. We found no other studies on this issue among Iraqi refugees/asylum seekers.

Relationship psychopathology and service use

The findings indicate a huge unmet need for mental health care. About 30% of the asylum seekers with a psychiatric disorder did not visit any service, and more than 90% of the asylum seekers with a psychiatric disorder did not visit a mental health service (Table 3). However 60.6% visited a nurse/doctor in the center and 33.8% the general practitioner. Both services are important in the pathway to mental health care (see later).

We hypothesized that higher levels of psychopathology would be related with higher service use. In the univariate analyses this hypothesis stands, except for use of a general practitioner. Also, there are differences between the groups. The hypothesis is strongly confirmed when we consider drugs use. The high use of analgetics in Group 2 might be explained by the high levels of pain disorders (11.3%) and physical health complaints (66.2%) in this group. However other explanations are possible. Van Dijk et al. [23] did a qualitative study among 22 asylum seekers and concluded that it seems that "the prescription of paracetamol has become a symbol for the lack of interest of and the rejection by the health care system". Their study reports dissatisfaction with the services of the nurse/doctor in the center, as well as with the services of the general practitioner.

Predictors of service use

After correcting the risks for all other included risk factors in multivariate analyses, low perceived quality of general health was the only significant predictor for mental health service use. Psychopathology, disability, nor physical complaints were significant predictors, while these factors were found to be important predictors in other studies (e.g. [8, 17]). Psychopathology, however, was a predictor for higher use of a medical specialist (non-psychiatrist). Our findings lead to the following hypothesis: (1) asylum seekers present themselves with physical rather than with mental problems (we know [14] that the level of physical complaints is high), (2) the staff in the center and the general practitioner do not recognize the mental health problems, and if they do (3) only a few patient are referred for adequate mental health care. This hypothesis is supported by the findings in the study of Van Oort et al. [24]. They found that in only 6% of the cases 'mental health problems' was recorded as reason of visiting the medical staff in the center, and only 2% of the referrals to the general practitioners were because of mental health reasons. The general practitioner diagnosed a mental health problem in 10% of the cases, and of those only 21.4% were referred to a mental health service (while 33.3% was referred to a medical specialist).

The mismatch between type of health problem and type of health service use seems to be less pronounced in Group 2: in the analyses per group (Tables 5, 6) psychopathology did not predict the use of a medical specialist in this group.

A curious finding is that overall quality of life has a positive relationship with the use of medical specialist. There might be a parallel with the phenomena that low social support is a risk factor for psychopathology [10], but high social support predicts health service use in some studies [15].

Several post-migration living problems (PMLP) predict health service use in Group 2. Especially worries about socio-economic living conditions increase the need for healthcare. The findings do not support the idea that asylum seekers look for recognition of their health problems in order to get a resident permit: there is no relationship between PMLP and mental health service use and there is a negative relationship with use of a medical specialist.

Conclusion

This study has shown that Iraqi asylum seekers have a low level of mental health service use, despite the high levels of psychiatric disorders and other health indicators, especially within the group that stayed in the asylum procedure for over 2 years.

Moreover, there is a mismatch between the type of health problem and the type of health service use: asylum seekers with a psychiatric disorder make more use of non-mental health service. There is room for improvement of the 'gate way' preventive services in detection and referrals of patients with mental health problems. The study results suggest that this service is a barrier rather than a facilitator in the pathway to mental health care. The general practitioner should be more involved and consulted. Mental health institutions are recommended to start and/or improve consultation and (assertive) care programs.

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