Health Policy 123 (2019) 864–872

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

Asylum seekers' mental health and treatment utilization in a three months follow-up study after transfer from a state registration-and reception-center in Germany

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ARTICLE INFO

Article history:
Received 1 January 2019
Received in revised form 6 July 2019
Accepted 9 July 2019

Keywords:
Asylum seekers
Trauma
Post-traumatic stress
Depression
Anxiety
Quality of life
Psychiatric care
Psychotherapy
Reception-center

ABSTRACT

Even though asylum seekers show a high prevalence of trauma-related disorders and comorbid psychological stress symptoms, little is known about how their mental health develops during the asylum process and what options of care are provided. We aimed to investigate the mental health and treatment utilization of asylum seekers after they were transferred from a state registration- and reception-center to municipal shelters in Germany. N = 228 asylum seekers with on-going asylum procedure were recruited in the psychosocial walk-in clinic located in a state registration- and reception-center. We firstly captured symptoms of posttraumatic stress, depression, anxiety disorders, quality of life, as well as alcohol or drug abuse. Subsequently we performed a follow-up after three months to evaluate a potential shift in symptoms and determining rates of access to treatment. In the pre-post psychometric assessment, there were statistically significant changes in depression (PHQ-2), panic (PHQ-PD) and psychosocial well-being scores (WHO-5). However, all these scores still remained within a clinical relevant range, respectively. Traumatic stress (PC-PTSD-5) and general anxiety scores (GAD-2) did not change significantly. Although N = 44 (66%) of the interviewed patients had been referred to psychotherapy initially, none (0%) of them had received outpatient psychotherapeutic treatment after three months. Our results emphasize a strong need for low-threshold, cultural adapted psychotherapeutic treatment for asylum seekers.

1. Introduction

As a result of persecution, armed conflicts, deficient health care, and human rights violations, more than 68.5 million people worldwide were forcibly displaced from their homes by the end of 2018 [1]. Due to pre-, peri-, and post-migratory distress factors, fleeing people are at high risk of developing mental health problems. In recent literature, up to 40% of refugees are reported to be affected by posttraumatic stress, depression, and anxiety disorders [2–7]. These figures are even more pronounced in vulnerable groups like migrating pregnant women, unaccompanied minor asylum seekers (UMAs), and elderly people [8–10]. Current findings, therefore, underline the urgent need for effective interventions - preferably shortly after the asylum seekers have arrived in the respective host countries.

There are various longitudinal studies which analyze the dynamics of asylum seekers' overall mental health, with a particular focus on symptoms of post-traumatic stress, depression, and anxiety disorders, both in observational follow-up studies [11–18] and treatment intervention studies [19]. Reporting follow-up periods from six months up to ten years, the majority of studies indicate that refugees and asylum seekers show persisting mental health problems over time [11,12,15,17,18]. However, there are some studies that reveal an improvement of psychological symptoms at the time of re-assessment [13,14,16,19], although measures did

This study was approved by the ethics committee of the University of Heidelberg (S-041/2017)

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https://doi.org/10.1016/j.healthpol.2019.07.008
0168-8510/

not necessarily present 'normal' or 'healthy' results in the assessed areas of mental health [12,13,15,16]. Therefore, it seems crucial that asylum seekers receive trauma related and culturally sensitive psychotherapeutic treatment at an early stage [20]. There are several effective approaches for the treatment of posttraumatic stress and related disorders in asylum seeker populations [21].

Regarding mental health care, the most common approach of asylum seekers seems to be to consult a general medical practitioner [22–24]. This way of dealing with psychological impairment and mental illness is even more pronounced than in the general population [25]. Interestingly, asylum seekers who complain of mental health problems visit general medical practitioners and medical specialists (not psychiatrists) significantly more often than those without psychological complaints [23,25]. This might also explain why the majority of asylum seekers with mental health problems primarily receive psychiatric medication instead of psychotherapy [14,23], as general practitioners tend to prefer psychopharmacological medication over psychotherapy in the treatment of mental illnesses [26]. Other reasons could be problems regarding the funding of psychotherapy and language difficulties. Further studies revealed that only ten percent of traumatized refugees were treated with specialized trauma therapy [24,27]. According to another study, forced migrants with psychiatric disorders receive less psychotherapeutic support in comparison to the resident population, even after having lived in the host country for many years [22]. Thorough evaluation of access to mental health care is thus very important in this population.

While the mentioned longitudinal studies provide some evidence on the course of mental health among asylum seekers, little is known on the transition from the initial reception center to municipal settings, and on their access to follow-up care after initial expert assessment and evaluation of their needs upon arrival. To date, there are no studies that have examined access to appropriate mental health care for asylum seekers in respect of experts' recommendations following initial reception center evaluation. This study aims to accompany asylum seekers with mental health problems in procedures related to mental health care: starting with the clinical diagnostic assessment, we were interested in what the treatment indications were, what kind of recommendations for therapy were made, and what treatment each individual eventually received. This prospective, longitudinal follow-up study investigates (1) how psychological symptoms change over time and (2) what kind of psychiatric and psychotherapeutic support is offered to asylum seekers after their transfer to districts, who were diagnosed with psychological illness at their initial visit in a walk-in clinic located in a German state registration and reception center. We hypothesized that (a) the symptoms of psychological complaints and illness would prevail or increase, and that (b) only a minority of asylum seekers would report to have received psychopharmacological and psychotherapeutic support according to experts' recommendations.

2. Material and methods

2.1. Participants and eligibility

The study was performed over a period of seven months (from September 2017 to the end of June 2018) on the premises of former barracks in Heidelberg-Kirchheim, Germany, named 'Patrick Henry Village' (PHV). All asylum seekers who consulted the psychosocial outpatient clinic of the Heidelberg Center for Psychosocial Medicine [28,29] located in the state-registration and reception center that met the inclusion criteria were invited to participate in the current study. All participants had applied for asylum in Germany before visiting the outpatient clinic. Inclusion criteria for our study were: consultation of the walk-in clinic, fluency in one of 16 most frequently spoken languages in the PHV (please see below), and age 18 years or older. Exclusion criteria were: disabilities affecting cognitive abilities (e.g. mental disability or dissociative stupor), illiteracy, and an age below 18 years.

2.2. Setting and health regulations for asylum seekers in Germany

Germany is one of the main destination countries for asylum seekers arriving in Europe. The asylum process involves several different procedures for newly arrived asylum seekers, such as registration and medical examination. Hereby, the medical examination procedure varies considerably within different German federal states [30]. The overall aim is to detect chronic and infectious diseases and to prevent life-threatening conditions. Beyond this initial medical examination procedure, registration centers often provide basic medical services, such as an on-site medical nurse, sometimes an onsite medical doctor. In the PHV, however, a medical outpatient clinic was set up in the former dental clinic [28] and provides care for the asylum seekers in the areas of general medicine, pediatrics, gynecology, and psychosocial medicine [29]. Here, asylum seekers are treated by registered physicians from Heidelberg and physicians from Heidelberg University Hospital. In the psychosocial outpatient clinic, medical doctors and psychologists from the Institute of Medical Psychology, the Department of Psychiatry, and the Department of General Internal Medicine and Psychosomatics offer consultations twice a week.

During the asylum seeking process, asylum seekers have limited access to psychotherapeutic care, as the Asylum Seekers' Benefits Act ("Asylbewerberleistungsgesetz") primarily aims at providing relief for acute conditions and pain [31]. However, during this period, asylum seekers are able to apply for psychotherapeutic treatment, although there are no clear criteria, underlying a respective decision for cost coverage [31]. After official refugee status has been awarded, access to psychotherapeutic treatment does not differ from the German general population with a national health insurance. However, interpreter services and corresponding costs are not covered which severely restricts treatment. Accordingly, psychotherapeutic treatment is often covered by non-governmental organizations [20,32,33].

2.3. Study design

We used a prospective, longitudinal study design to investigate asylum seekers' access to psychiatric and psychotherapeutic care after having been transferred from a state registration and reception center to a municipal shelter in Germany. The following assessment points were defined:

- *Baseline assessment (t1):* Sociodemographic characteristics and symptoms of mental stress were evaluated with psychometric questionnaires. In particular, we were interested in symptoms of posttraumatic stress, depression, or anxiety disorders, quality of life, and alcohol or drug abuse prior to the individuals' first consultation at the psychosocial outpatient clinic. Furthermore, we recorded the clinical diagnoses and treatment recommendations made by psychotherapists working in the psychosocial outpatient clinic.
- *Follow-up interviews (t2):* After a three-month period, we applied the same psychometric questionnaires to evaluate a potential shift in symptoms of posttraumatic stress, depression, anxiety disorders, or quality of life, and to estimate whether alcohol or drug use had changed. Furthermore, we investigated psychiatric and psychotherapeutic treatment during the follow-up period and at the point of assessment.

2.4. Ethical approval

The study was approved by the ethics committee of the University of Heidelberg (S-041/2017) and all participants gave their written informed consent in accordance with the Declaration of Helsinki.

2.5. Recruitment and data collection

Patients waiting for treatment in the psychosocial outpatient clinic of the Heidelberg Center for Psychosocial Medicine at PHV [28,29] were provided with information about the performed study and were invited to participate. Additionally, we asked participants for their telephone number so that we could contact them three months later for the follow-up interview. We provided all the written material of the study as well as the questionnaires in 16 languages (English, German, French, Persian, Arabic, Turkish, Kurmanji (Northern Kurdish), Urdu, Hausa, Russian, Serbian, Albanian, Macedonian, Georgian, Mandinka, Tigrinya). Patients were explicitly informed that participating in the study would not affect their asylum procedure in any way. Assessment and all interviews were conducted by two trained research assistants.

2.5.1. Baseline assessment (t1)

After having obtained their informed consent, the participants were asked for sociodemographic information. Then, they were invited to fill in questionnaires to assess traumatic stress (PC-PTSD-5), depression (PHQ-2), general anxiety (GAD-2), panic symptoms (PHQ-PD), social well-being (WHO-5), as well as three screening questions to investigate harmful alcohol consumption and drug abuse. We presented the psychometric questionnaires on a tablet, using the QuestionPro ® Survey Software. Diagnosis and treatment recommendations of the participants were taken from the discharge letter that the patients received after their consultation at the psychosocial outpatient clinic.

2.5.2. Follow-up interviews (t2)

All follow-up interviews were carried out via phone three months after participants' first consultation in the psychosocial walk-in clinic. Follow-up interviews consisted of two parts: the psychometric questionnaires to assess symptom severity and a semi-structured interview focusing on the participants' access to psychiatric and psychotherapeutic care after having been transferred to municipal housing. The time period to which the questions on health service use referred within the interviews was the time period after the asylum seekers were transferred from the PHV till follow-up interview. Each participant who was not available the first time was contacted up to ten times over six weeks before they were excluded from the follow-up. Non-English-speaking participants were interviewed by a telephone interpreter.

2.6. Measures – baseline assessment (t1)

2.6.1. Cultural sensitive translation of applied questionnaires

Whenever available, we administered validated versions of the questionnaires in the different languages. This was the case for English (all questionnaires available), French (GAD-7, PHQ-9, WHO-5, PHQ-PD), Albanian (WHO-5), Arabic (GAD-7, PHQ-9, WHO-5), Farsi (PHQ-9, WHO-5), Russian (GAD-7, PHQ-9, WHO-5), Serbian (PHQ-9), Turkish (PHQ-9, WHO-5, GAD-7) and Urdu (WHO-5). In absence of a validated version in a specific language, we translated the respective questionnaire by means of expert discussion: Recent studies have shown that expert discussions help to ensure the apt translation of content and cross-cultural adaption of questionnaires allowing for their comparison across languages [34]. We asked two different translation agencies to translate the questionnaires into each of the 16 languages. In a following step, another professional translator created one single version out of the two different translations. This version was discussed in a multidisciplinary expert committee consisting of a medical doctor, a psychologist, an anthropologist, and the translator. The final result was a consensus approved version of the respective questionnaires.

2.6.2. Sociodemographic and diagnostic data of the sample

Prior to administration of the psychometric questionnaires, the participating asylum seekers completed questionnaires assessing sociodemographic information (sex, age, origin, religion / atheism, number of children) and the individual reasons for flight.

2.6.3. PC-PTSD (Primary care PTSD screening)

In order to assess posttraumatic stress disorder (PTSD) symptoms, we used the PC-PTSD-5 [35]. Derived from DSM-5 criteria, the questionnaire begins with a list of trauma events which we adapted to include the traumata most frequently experienced by asylum seekers [21]. Items are assessed by a dichotomous (yes/no) response format. Individuals without previous exposure to trauma did not have to answer the subsequent questions on PTSD symptoms. If participants confirmed at least one trauma event, they were asked five binary questions to assess their perception of these experiences [35]. The overall score of the PC-PTSD-5 lies between 0 and 5, the cut-off score is set at 3. It shows good sensitivity (.93) and acceptable specificity (.85) and was well tolerated by patients [36]. The average Kuder-Richardson formula 20 reliability coefficient was 0.52.

2.6.4. PHQ-2 (patient health questionnaire for depressive disorders)

In the PHQ-2 [37], participants are asked two questions about anhedonia and depressed mood. The possible answers are set on a scale between 0 (not at all) and 3 (nearly every day). The overall score of the PHQ-2 ranges between 0 and 6 and has a good construct validity (r from .67 to .87) and a good internal consistency [$\alpha = .83$; 38]. The cut-off score set at ≥ 3 shows a sensitivity of .61 to .87 and a specificity of .86 to .92 for major depression in primary care and medical outpatients [37–39], and a sensitivity of .79 and a specificity of .86 for any other depressive disorder [38].

2.6.5. GAD-2(General anxiety disorder questionnaire)

The GAD-2 [40] is recommended by the National Institute for Health and Care Excellence Guidelines [41] for the detection of anxiety disorders. It consists of two items with response possibilities from 0 (not at all) to 3 (nearly every day). The overall score ranges between 0 and 6. With the cut-of score set at ≥ 3, the GAD-2 shows a sensitivity of .89 for generalized anxiety disorder and a specificity of .83 for generalized anxiety disorder [40,42]. Internal consistency reliability is acceptable [$\alpha = .83$; 43].

2.6.6. PHQ-PD (Patient health questionnaire for panic disorder)

The panic module of the PHQ is a psychometric test to assess a possible panic disorder [44]. In the current study, we used a short version of the panic module. In five questions, the most important diagnostic criteria of a panic disorder according to DSM-4 are assessed and the questionnaire also fits the diagnostic criteria according to DSM-5. In the case that all five items are answered with 'yes' the result is rated as positive, meaning that a panic disorder is likely. The sensitivity of the panic module is 0.75, the specificity is 0.96 [45]. Information on the internal consistency of the panic module is not useful [46], due to the purely categorical evaluation and internal jump rules (if question one is answered in the negative, the remaining questions are skipped).

2.6.7. WHO-5 (WHO-Five: Well-Being Index)

In order to assess the participants' well-being, we used the WHO-5 well-being index (WHO-5) of the World Health Organization [47] as a self-evaluation method. The WHO-5 refers to the well-being of the last two weeks. The questionnaire consists of five items with six possible answers (0 = 'at no time' to 5 = 'all the time'); higher values reflect higher well-being. The WHO-5 shows a high internal consistency (Cronbachs $\alpha = .92$), high stability (rtt = .66–.80), and satisfactory validity as well as high specificity (82.5%) and sensitivity (57.1%) [48–50].

2.6.8. Alcohol and drug addiction

To assess harmful alcohol consumption and drug abuse, three questions were used: 1) 'Do you regularly have five or more drinks (beer, wine, or liquor) on one occasion?', 2) 'Do you use street drugs at the moment?' and 3) 'Are you currently addicted to a prescribed medicine or take a lot more of it than you were supposed to?' These questions were derived from the Screening questions from the SCID (Structured Clinical Interview [51]). They were modified to guarantee sensitivity to changes in a person's behavior of alcohol or drug use.

2.6.9. Assessment of clinical diagnosis and treatment recommendations

After the asylum seekers had a consultation in the outpatient clinic, the study investigators assessed the number and kind of psychiatric diagnoses they were given as well as the treatment recommendations as recorded in the individual discharge letter.

2.7. Measures – follow-up interviews (t2)

2.7.1. Follow-up symptom severity measure of mental distress

During the follow-up interviews, we used the same psychometric questionnaires as we had used for the baseline measurement. Our aim was to assess potential changes in mental health symptoms. We used the PC-PTSD-5 to investigate traumatic stress, the PHQ-2 for symptoms of depression, the GAD-2 for symptoms of an anxiety disorder, the PHQ-PD for panic symptoms, the WHO-5 to assess psychosocial well-being, and three questions to ascertain whether a patient had changed his or her alcohol and drug use.

2.7.2. Follow-up interviews regarding utilization of mental health care

In order to assess the participants access to psychiatric-psychotherapeutic care, participants were asked whether and how many times they had visited a psychiatrist or psychologist, whether they had been to a psychiatric or psychosomatic clinic or had visited a general practitioner, whether they had been to a support group or an information/counselling center, and whether they had started with psychotherapy. Furthermore, we inquired if they were using any kind of drugs at the point of the follow-up interview or three months before. The key questions of these interviews were designed as a semi-structured interview.

2.8. Data analysis

All statistical analyses were carried out by using the Statistical Package for the Social Sciences (SPSS) program version 24 [52]. Demographic variables and baseline characteristics were analyzed using descriptive statistics (frequencies, means, and standard deviations). Because the data distributions tended to be skewed, we used Wilcoxon signed-rank tests. The baseline scores for PTSD, depression, anxiety disorders, panic symptoms, and general well-being (T1) were compared to the scores at three months follow-up measurement. (T2).

3. Results

3.1. Sample

During the study period, 355 patients consulted the psychosocial walk-in clinic. 313 patients met the inclusion criteria. Eight persons were excluded because of illiteracy. A further 32 persons were excluded as they did not speak any of the most commonly spoken languages in the camp. One person was excluded because of mental disability; another was referred to hospital treatment due to a suspected severe dissociative disorder. 263 asylum seekers were willing to take part in the study and gave their written informed consent. Hence, at baseline measurement (t1), the participant group consisted of 263 asylum seekers correspondent to a participation rate of 84%. 23 persons withdrew their consent before completing the questionnaires. Eight of these participants thought the questionnaires were emotionally too challenging, the other 15 participants stopped filling in the questionnaires due to difficulties concentrating or headaches. Data of twelve asylum seekers could not be used because of incompleteness or as collected data was not compatible with the documented informed consent. Of the remaining 228 participants, 88 participants (38.6%) could be reached via phone for follow-up interviews, consisting of part one: the psychometric questionnaires and part two: the questions about the participants' access to psychiatric and psychotherapeutic care. As the interview was quite long, some participants only completed one part and not in the whole interview. Three participants answered the questions about their access to psychiatric and psychotherapeutic care, but did not complete the psychometric questionnaires. Ten participants completed the psychometric questionnaires, but did not answer the questions about their access to psychiatric and psychotherapeutic care. Furthermore, 12 participants who were still located in the state registration and reception center in Heidelberg at the time of follow-up, were also asked to fill in the psychometric questionnaires at follow-up, but did not answered the questions about their access to psychiatric and psychotherapeutic care. Accordingly, qualitative data on asylum seekers' access to psychiatric and psychotherapeutic care were available from 66 participants in total, while quantitative data from the follow-up questionnaires was collected from 85 participants in total.

3.2. Sociodemographic characteristics of the participants

Table 1 depicts sociodemographic characteristics of (A) the asylum seekers that consulted the psychosocial outpatient clinic at t1 (n = 228) and were subsequently recruited for the study as well as (B) sociodemographic characteristics of the asylum seekers who participated in the follow-up interviews at t2 (n = 88). Most frequent regions of origin were Asia (including Turkey; 52.3%), Africa (30.7%) and Eastern Europe (including Russia) (15.9%) for participants at t2. Online appendix 1 presents the most common reasons why participants left their home countries, as assessed at baseline (t1).

3.3. Clinical diagnoses and psychometric characteristics of the participants and treatment recommendations

The baseline clinical assessment showed that the majority of the n = 228 participants suffered from PTSD (41.2%) and depressive disorders (25.0%), followed by adjustment disorders (22.4%; see Table 2). At follow-up the mean time the patients had been out of the PHV was nine weeks (SD 3 weeks). In the follow-up examination the observed order of most common psychiatric diagnoses was replicated with slightly different proportions (PTSD: 45.5%, depressive disorders: 28.4%, and adjustment disorder: 22.7%; see also Table 2). Table 3 displays statistically significant changes in the

Table 1
Patient characteristics at first contact (n = 228) and follow-up (n = 88).

Characteristics	First contact		Follow-up	
	n	percent [%]	n	percent [%]
Sex				
Male	133	58.3	54	61.4
Female	95	41.7	34	38.6
Age				
18-24 years	61	26.8	20	22.7
25-34 years	82	36.0	34	38.6
35-44 years	57	25.0	23	26.1
≥45 years	28	12.3	11	12.5
Origin				
Eastern Europe (including Caucasus & Russia)	40	17.5	14	15.9
Asia (including Turkey)	113	49.6	46	52.3
Africa	74	32.5	27	30.7
Others	1	0.4	1	1.1
Religion / atheism				
Christianity	85	37.5	42	47.7
Islam	108	47.4	37	42.0
Hinduism	1	0.4	0	0
Buddhism	2	0.9	0	0
Judaism	3	1.3	1	1.1
Atheism	10	4.4	4	4.5
Others	19	8.3	4	4.5
Number of children				
Zero	133	58.3	50	56.8
One	29	12.7	11	12.5
Two	31	13.6	17	19.3
≥Three	35	15.4	10	11.4

Table 2
Clinical diagnoses at first contact (n = 228) and follow-up (n = 88).

Clinical diagnoses	First contact		Follow-up	
	n	%	n	%
PTSD (ICD-10 F43.1)	94	41.2	40	45.5
Adjustment disorders (ICD-10 F43.2x)	51	22.4	20	22.7
Acute stress reaction (ICD-10 F43.0)	2	0.9	N/A	N/A
Depression	57	25.0	25	28.4
Depressive episode	40	17.5	15	17.0
Mild depressive episode (ICD-10 F32.0))	2	0.9	0	0
Moderate depressive episode (ICD-10 F32.1)	30	13.2	11	12.5
Severe depressive episode (ICD-10 F32.2)	8	3.5	4	4.5
Recurrent depressive disorder (ICD-10 F33.x)	14	6.1	8	9.1
Unspecified mood disorder (ICD-10 F39.x)	3	1.3	2	2.3
Anxiety disorders	14	6.1	8	9.1
Generalized anxiety disorder (ICD-10 F41.1)	1	0.4	1	1.1
Panic disorder (ICD-10 F41.0)	10	4.4	5	5.7
Phobic anxiety disorders (ICD-10 F40.x)	3	1.3	2	2.3
Mixed anxiety and depressive disorder (ICD-10 F41.2)	15	6.6	7	8.0
Mental and behavioral disorders due to psychoactive substance use	24	10.5	6	6.8
Sedatives or hypnotics: dependence syndrome *(ICD-10 F13.2)*	17	7.5	4	4.5
Cannabinoids: dependence syndrome *(ICD-10 F12.2)*	2	0.9	1	1.1
Alcohol: dependence syndrome *(ICD-10 F10.2)*	1	0.4	N/A	N/A
Opioids: dependence syndrome *(ICD-10 F11.2)*	4	1.8	N/A	N/A
Multiple drug use: dependence syndrome *(ICD-10 F19.2)*	2	0.9	2	2.3
Analgesics: abuse *(ICD-10 F55.2)*	1	0.4	N/A	N/A
Somatoform disorders (ICD-10 F45.x)	12	5.3	7	8.0
Disorders of adult personality and behavior (ICD-10 F6)	6	2.6	1	1.1
Schizophrenia (ICD-10 F20.x)	9	3.9	4	4.5
Delusional disorder (ICD-10 F22.0)	1	0.4	N/A	N/A
Dissociative disorders (ICD-10 F44.x)	3	1.3	1	1.1
Cyclothymia (ICD-10 F34.0)	1	0.4	1	1.1
Schizoaffective disorder, mixed type (ICD-10 F25.2)	1	0.4	1	1.1
Other single mood disorders (ICD-10 F38.0)	1	0.4	N/A	N/A

mean sum scores of PHQ-2, PHQ-PD and WHO-5, when comparing psychometric measures at t1 and t2 (see Table 3). At follow-up 58 of the 85 (68.2%) patients who completed the psychometric questionnaires still scored above the PHQ-2 cut-off value; 33 patients (38.8%) met the cut-off value in PHQ-PD; 64 patients (75.3%) still scored above the cut-off value in PC-PTSD-5 and 56 patients (65.9%) scored about the cut-off value in GAD-2. For WHO-5, 63 participants (74.1%) still scored below the cut-off value at follow-up, indicating a low mental wellbeing.

The most common therapeutic recommendations were psychopharmacological medication (74.6%), mainly by sleep-inducing, sedative drugs (53.9%), and psychotherapy (56.1%), mainly in terms of a trauma-adapted psychotherapy (39.0%). Further recommendations concerned psychosocial offers (26.3%), like the

Table 3
Results of psychometric measures at baseline (t1; n = 228) and changes of symptom severity from baseline (t1) to follow-up (t2; n = 85)[a].

Screening instrument	M	SD	Asylum seekers with presumed mental illness based on screening scores (%)
(measured symptoms in brackets)			
PC-PTSD-5[b] ***(posttraumatic stress symptoms)***	2.50	1.83	121 (53.1)
PHQ-2[c] ***(depressive symptoms)***	4.10	1.96	174 (76.3)
GAD-2[d] ***(anxiety symptoms)***	4.19	1.91	169 (74.1)
PHQ-PD[e] ***(panic symptoms)***	3.24	2.08	106 (46.5)
WHO-5[f] ***(qualitiy of life)***	5.95	5.89	192 (84.2)
Question concerning alcohol consumption[g]	–	–	17 (7.5)
Question concerning drug use[g]	–	–	15 (6.6)
Question concerning medication addiction[g]	–	–	52 (22.8)

Screening instrument	T1 M (SD)	T2 M (SD)	Change from T1 to T2 M (SD)	Wilcoxon-Test
PC-PTSD-5[b]	3.13 (1.79)	3.42 (1.61)	0.29 (2.13)	z=−1.219; p = 0.223
PHQ-2[c]	4.31(1.78)	3.71 (2.01)	−0.60 (2.42)	z=−2.079; p = 0.038
GAD-2[d]	4.22 (1.95)	3.84 (1.95)	−0.39 (2.61)	z=−1.259; p = 0.208
PHQ-PD[e]	3.31 (2.07)	2.56 (2.33)	−0.74 (2.88)	z=−2.243; p = 0.025
WHO-5[f]	4.92 (5.23)	8.21 (7.27)	3.29 (7.64)	z=−3.643; p = 0.000

[a] 85 out of the 88 participants who could be reached via phone answered the psychometric questionnaires at follow-up.
[b] Indication of the presence of a PTSD with a cumulative value ≥ 3.
[c] Indication of the presence of a depression with a cumulative value ≥ 3.
[d] Indication of the presence of a generalized anxiety disorder with a cumulative value ≥ 3.
[e] Indication of the presence of a panic disorder with a cumulative value = 5.
[f] Indication of the presence of a low quality of life and possible depression with a cumulative value < 13.
[g] Medication addiction, alcohol and drug use are regarded conspicuous when question concerning regular consumption was answered positively.

Table 4
Therapy uptake with regard to therapy recommendations at three-month follow-up (n = 66)[a].

	Recommendation (n)	Therapy uptake (n)	Percent [%]
[]Psychotherapy	*44*	*0*	*0.0*
Psychotherapy	11	0	0.0
Trauma-adapted psychotherapy	33	0	0.0
Medication	*54*	*28*	*51.9*
Antidepressants	11	6	54.5
Antipsychotics	7	6	85.7
Sleeping pills	47	23	48.9
Anticholinergic	1	1	100.0
Addiction therapy	*4*	*1*	*25.0*
Detoxification			
Benzodiazepines	3	1	33.3
Addiction treatment	2	0	0.0
Use of further psychosocial offers in the 'preliminary reception centers'	*21*	*10*	*47.6*
Stabilization group for traumatized asylum seekers	12	4	33.3
Family consultation-hour	5	2	40.0
Information centers	7	3	42.9
Caritas/Counselling Center	6	3	50.0
International Womenś Center	1	0	0.0

[a] 12 out of the 88 participants who could be reached by phone were still located at the PHV at follow-up. Out of the 76 who were already transferred at follow-up, 66 participants answered the questions about access to psychiatric and psychotherapeutic care.

participation in a stabilization group (13.2%; see online appendix 2).

3.4. Therapeutic treatment interventions according to the therapists' recommendations

At follow-up, 51.9% of the participants continued to take the prescribed medication. While 60.6% of all men who were prescribed psychopharmacological treatment at the PHV still took their medication at follow-up, only 30.1% of all women with a recommendation for psychopharmacological treatment still received medication at follow-up. Furthermore, none of the 44 patients recommended for psychotherapy in t1 had started outpatient therapy at t2. 47.6% of the participants with prior recommendation for further psychosocial offers made use of these at follow-up (see Table 4).

In addition to the recommended treatment, 22 participants (33.3%) had an appointment with a registered psychiatrist. 33 participants (50%) consulted a general medical practitioner, two thirds of whom went there on account of their mental health problems. After having left the state registration and reception center, 35 asylum seekers (53.0%) visited an aid organization to receive psychosocial support or psychosocial counseling. Five individuals (7.6%) were treated in hospital, one of them took part in a group psychotherapy (1,5%). One asylum seeker visited a self-help group (1.5%), and another one took part in a therapeutic painting group (1.5%).

4. Discussion

This study assessed asylum seekers' access to psychiatric and psychotherapeutic treatment during the transition from a state-registration and reception center to municipal housing, taking into account the clinical evaluation and treatment recommendations of experienced therapists at baseline. Most importantly, data shows, that none of the asylum seekers that received a psychotherapeutic treatment recommendation received such treatment within the three months follow-up period. Only 50% of asylum seekers that were prescribed psychopharmacological treatment while sheltered in the state-registration and reception center, still took their medi-

cation at the time of follow-up. Half of the participants consulted a general medical practitioner; two thirds of which sought consultation because of psychological complaints; more than half received psychosocial care and psychosocial counselling provided by help organizations after relocation.

In our study, the clinical assessment of asylum seekers during their consultation in the psychosocial outpatient clinic revealed that this group is highly burdened by mental health problems: 41% suffer from a posttraumatic stress disorder (prevalence in population-based studies: 1.1–2.9% [53]), 25% from a depressive disorder (population based: 6.9% [53]) 6% from anxiety disorders (population based: 14% [53]) and over 10% from addictive disorders (population based: above 4% [53]). The high prevalence of mental disorders detected in our study group is also reflected in the psychometric measures' results. This is in line with the findings of a systematic review on mental conditions among asylum seekers and refugees in Germany [7]. Although authors detected a large heterogeneity of PTSD prevalence in the evaluated studies, PTSD prevalence was found to be above 22% in a non-population based study which assessed participants in institutional settings. Hence, our finding of 41% of asylum seekers suffering from a PTSD might be explained by the clinical setting in which we recruited our sample in. In line with the high prevalence of mental disorders in our study group of asylum seekers, more than 56% had been recommended to undergo psychotherapy, while nearly three quarters of participants had been prescribed psychopharmacological treatment at the outpatient clinic. Despite our finding of statistically significant changes in symptomatology of depression and panic as well as quality of life at follow-up, a high proportion of the examined asylum seekers still showed psychometric scores above the recommended cut-off values after 3 months.

Previous studies have found varying results regarding the evaluation of forced migrants' symptom severity via psychometric measures over time. While Niklewski et al. found a significant reduction of depressive symptoms and an improvement in forced migrants' quality of life after seven months of living in Germany [14], most studies could not show any significant change of psychological symptom severity over time [11,12,15,17,18]. In contrast to investigations of Lie and Kivling-Bodén our study examined the symptom severity over time for a more heterogeneous and naturalistic group of asylum seekers [12,18]. Different to former studies [17,18] our study investigated the symptom severity over time in a time period directly after asylum seekers' arrival in Germany. Symptom severity in this period is of particular interest as asylum seekers are affected by a definite loss of social roles, uncertainty regarding the asylum seeking process and an un-familiar surrounding with cultural and language barriers.

The performed 3-months follow-up revealed no significant changes in posttraumatic stress and general anxiety questionnaire scores in pre-post psychometric assessment. In contrast, assessed participants improved significantly with regard to panic symptoms, depression, and quality of life scores. However, despite improvement, assessed depression scores were still in a clinical relevant range. Furthermore, psychosocial well-being scores at three months follow-up still suggested a low quality of life, while panic symptoms had already been subclinical at baseline assessment. The decline of panic symptoms and depression scores as well as the improvement in quality of life might result from a temporary reduction in the asylum seekers' feeling of persecution and loss of control and an improvement in their environmental conditions due to their (temporary) stay in Germany. Accordingly, our study results underline previous study outcomes and reveal that even after three months the asylum seekers group still suffers from relevant posttraumatic stress, depression, and anxiety which is not sufficiently addressed by guideline-based and disorder-focused psychotherapeutic and psychopharmacological treatment [16,19].

As far as can be ascertained, this is the first study to have followed-up a fairly sizable group of asylum seekers' access to psychiatric as well as psychotherapeutic care three months after their arrival in Germany and comparing results to initial expert treatment recommendations [29]. A systematic review of studies on access to mental health care among refugees in Europe identified 27 studies in total, of which only three were longitudinal [54]. As all participants were individually assessed and diagnosed by experienced psychotherapists upon seeking care in the outpatient clinic, treatment recommendations made and treatments status at three month follow up could be compared at individual level. This adds a valuable perspective to the existing body of literature, as care in the course of the asylum process could be compared to baseline needs in order to evaluate access to appropriate care.

Alarmingly, none of the patients that initially had been referred to psychotherapeutic treatment had successfully started outpatient psychotherapeutic treatment after 3 months. Only half of the patients with an initial prescription of psychopharmacological medication to, had continued taking these at 3-month follow-up. It is unclear whether asylum seekers have impeded access to mental health care due to language and cost barriers or because of reduced adherence to treatment recommendations. Most likely, the answer lies in the interplay: for example, all participants (except one who was treated in a psychiatric clinic for more than two months; N = 65) were asked whether they had contacted a registered mental health professional (a psychiatrist or a psychotherapist) at follow-up. While 39 asylum seekers (60.0%; N = 65) had actively tried to get in touch with a registered mental health care professional, only 22 of them (33.8%; N = 65) had been able to see a mental health professional at least once. The other 17 asylum seekers (26.2%; N = 65) mentioned language barriers, long waiting times as well as frequent transfers as the most common reasons why they had not been successful in establishing contact. In Germany the average waiting time for the first appointment with a psychotherapist was 5.7 weeks and 19.9 weeks to start of psychotherapy in 2018 [55]. Furthermore, within the first months after their arrival in Germany asylum seekers often get transferred from one location to another several times. This complicates contacting mental health professionals and may, at least in parts, explain why none of the 44 patients recommended for psychotherapy had started a therapy at 3-month-follow-up. 26 asylum seekers (40.0%; N = 65) did not try to get in touch with a mental health professional. 14 (21.5%; N = 65) of them reported that they did not want any contact because they felt better, did not want to ask for external help, or felt adequately cared for by their general practitioner. The other twelve asylum seekers (18.5%; N = 65) would have liked to have seen a mental health professional but generally stated they did not know whom to contact.

From a health care policy and organization of care perspective, the results of our study call for an increased collaboration between authorities and care providers at different stages of the asylum process to reduce discontinuity of care during the transition from reception centers to municipal levels. Failure to improve continuity and poor linkage to care of patients, identified as being in high need for specialist mental health care, means that financial and human resources invested in reception centers are blatantly wasted. As such, diagnostics and recommendations do not translate into health gains, leading to an inefficient response of the regional health care system. In the future, studies with longer follow-up periods are needed to shed light on the development of asylum seekers' access to psychiatric and psychotherapeutic treatment over time. In line with other studies, our study data suggests that the mental health care that is provided to asylum seekers after their arrival in the host country is not adequate in relation to their high level of mental health problems [23,25].

4.1. Limitations

Several limitations of the presented investigation should be addressed: First, our study is limited by the relatively small number of participants and a short follow-up period. Second, previous medical history could not be collected consistently, including protective factors like accompanying family members. However, compared to the existing literature to date, this investigation constitutes the largest study to examine the longitudinal course of mental health care provision of asylum seekers in a symptom-, diagnosis, and recommendation-specific manner in Germany. Furthermore, the PHV has a professional medical devision within the PHV, which is not typical for most other state registration and reception centers, generalizability may be also limited. At the same time a considerable *loss-to-follow-up* rate can be ascertained, which is probably due to the most uncertain and unstable living conditions during asylum process, the transition from state-registration and reception center to municipal housing. Additionally, under such circumstances telephone availability can naturally be restricted. The uncertain living conditions are also reflected by the fact, that by the time of 3-month-follow-up, a proportion of participants were still accommodated in the same registration- and reception center, waiting for further transfer. Due to the resulting high *loss-to-follow-up* rate, our estimates for access to mental health care may be influenced by attrition bias (e.g. selection, differences in post assessment due to different decisions regarding asylum procedure, etc.). Moreover, carry-over effects cannot be ruled out as pre-post assessment was conducted by the same research assistants. Another important restriction is the timing of the follow-up assessment after only 3 months, probably being a considerable reason for our finding, that none of the asylum seekers had been able to start psychotherapy until then. However, it can be assumed that after a longer period of time before follow-up even fewer asylum seekers would have been reachable, resulting in a higher loss-to-follow-up rate. Furthermore, clinically speaking a 3 month should be considered as an already too long period of time of waiting to receive psychosocial help in this range of critical symptom scores. Furthermore, gender-specific barriers were not examined which may have impeded access to proper psychotherapeutic or psychiatric care. Finally, the heterogeneity of the participating asylum seekers may be another notable limitation but also a strength of the study. At follow-up, individuals had already lived in municipal shelters for different lengths of time. The time span of living in more stable living conditions in a municipal shelter can be assumed to be a relevant momentum in current stress load of the asylum seekers, which therefore has to be taken into account, when assessing psychological impairment in follow-up examination.

4.2. Conclusion

This study simultaneously investigated psychometric measures and access to psychiatric and psychotherapeutic treatment assessed in correspondence with treatment indications and recommendations established by psychological experts. None of asylum seekers received psychotherapeutic treatment during their transition from state-registration and reception-center to municipal housing within a period of time that, from a clinical perspective, can be considered as unacceptably long in light of the severity of assessed symptom scores. Furthermore, only half of recommended psychopharmacological treatment was pursued, while psychometric measures for posttraumatic stress, depression and anxiety were on a high level and quality of life – although improved – was still impeded. Findings underpin the urgent need for low-threshold, cultural as well as trauma adapted treatment including increased cooperation between authorities and care providers across the asylum continuum to improve linkage to needed care, and reduce inefficiency in the system.

Author contributions

CN, DK and KB conceived the study. CN, DK, and KB participated in the design of the study. HB, CDG and VZ carried out the study. CN, DK, and FJ supervised the project. HB and CN carried out the quantitative analysis. CN, DK and KB finally drafted the manuscript. All authors read and approved the final manuscript.

Funding

This study was supported by the Ministry of Science, Research and Arts, Baden-Württemberg, Germany (project identification No. D100011720; AZ42-04 HV.MED (16)27/1).

Declaration of Competing Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Acknowledgment

The authors gratefully thank Anne Klippel and Anna Cranz for their valuable suggestions and proof reading.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.healthpol.2019.07.008.

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