The role of cultural background in diagnosing psychotic disorders: Misclassification of psychiatric symptoms in Moroccan immigrants in the Netherlands
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Chapter 3

First contact incidence of psychotic disorders among native Dutch and Moroccan immigrants in the Netherlands: influence of diagnostic bias.

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Abstract

Background
Several studies have reported increased incidence rates of psychotic disorders among immigrant groups. Surprisingly, the cross-cultural validity of the diagnostic instruments that were used was never tested.

Aims
To examine whether the incidence rates of psychotic disorders including schizophrenia among Moroccan immigrants to the Netherlands remain increased when a cultural sensitive diagnostic interview is used.

Method
We compared first contact incidence with a standard and a cultural sensitive version of a diagnostic interview.

Results
Age and gender adjusted relative risk for psychotic disorders and schizophrenia among Moroccans compared to native Dutch was 7.9 (95% CI 4.7-13.5) and 7.8 (95% CI 4.0-15.2) respectively based on the standard diagnostic interview and 4.2 (95% CI 2.3-7.9) and 1.5 (0.5-4.3) respectively based on the cultural sensitive version the diagnostic interview.

Conclusion
First contact incidence of schizophrenia among Moroccans was no longer significantly higher than among ethnic Dutch people when a cultural sensitive diagnostic procedure was applied.

Declaration of interest
None.
Key words: standardized diagnosis, schizophrenia, psychosis, misdiagnosis, ethnic minority.
1. Introduction

Epidemiological studies in the UK consistently reported increased incidence rates of schizophrenia among ethnic minority groups (Harrison et al., 1997; Wessely et al., 1991; Van os et al., 1996; Bhugra et al.; 2001). In the Netherlands, particularly high rates have been reported among Moroccans (Selten et al., 2001). Several authors have postulated that cross-cultural biases (Mckenzie, 1999; Littlewood & Lipsedge, 1981a; Sashidharan, 1993; Strakowski, 1996) may have influenced admission rates and diagnostic evaluations among immigrants and thus may have led to an overestimation of the incidence rates among ethnic minorities.

The aim of the current study was, therefore, to examine whether incidence rates of first contact schizophrenic disorders among Moroccan immigrants in the Netherlands remained increased when a cultural sensitive diagnostic interview was used. For this purpose we compared the risk of schizophrenia and other psychotic disorders among Moroccans and native Dutch, with a standardised diagnostic assessment and one based on a culturally sensitive adapted version of the same instrument based on the principles of cultural formulation.

2. Method

2.1. Study design

In order to reach maximum comparability to the afore mentioned study that reported higher first contact incidence rates of schizophrenia among Moroccans than among native Dutch people (Selten et al., 2001), we used similar methodology, but added a cultural sensitive assessments of complaints. The current study took place in the city of Utrecht, the Netherlands, which has a population of 262,888 inhabitants. Every patient aged 15-54 years who made contact with one of the mental health services in Utrecht with a suspected psychotic disorder for the first time between May 1st 2002 and April 30th 2004 was reported to a central office where these referrals were screened for eligibility. Patients with a history of psychosis or with a clear substance induced psychosis, and patients without psychotic symptoms or a non-psychotic disorders were excluded. In our study we included all native Dutch and all (first and second generation) Moroccan immigrants who had been registered as a legal citizen of Utrecht for at least 6 months prior to the study. All patients who met the inclusion criteria were approached through their treating physician to participate in the study.
Permission to perform the study was obtained from the institutional review board of the University Medical Center of the University of Utrecht.

2.2. Assessment

After informed consent was obtained, patients were interviewed with the standard Dutch version of the Comprehensive Assessment of Symptoms and History (CASH) (Andreasen et al., 1992). A second interview with a modified, cultural sensitive version of the CASH (CASH-CS) (Zandi et al., 2008) was administered to all Moroccan and an equal number of native Dutch patients. The two versions of the instrument were administered in random order.

2.2.1. Standard diagnostic interview

The CASH is a semi-structured diagnostic interview designed to provide a comprehensive description of phenomenology for patients suffering from the broad range of psychotic disorders, including mood disorders and substance abuse disorders. In addition, the medical file of each subject was screened for additional information and, if questions remained, the rater contacted the patients’ physician. A consensus DSM-IV diagnosis (APA, 1994) was made based on this information. All interviewers were academic psychiatrists (or residents), trained to use this semi-structured interview. In case a patient refused to have contact with the team, anonymous diagnostic information was obtained from the treating physician.

2.2.2. The cross-cultural interview

The CASH-CS is a modified version of the standard CASH interview that was developed for the purpose of this study. The procedural cross-cultural validity of this interview was examined previously in Casablanca, Morocco (Zandi et al., 2008). The aim of developing this special version of the CASH was to arrive at a culturally sensitive interpretation of symptoms and making use of a cultural formulation. Three areas of pathology are particularly relevant in this respect, i.e. hallucinations, dissociative symptoms and affective symptoms (Vega et al., 2006; Arnold et al., 2004; Littlewood & Lipsedge 1981b; Kano et al., 1983). In brief, in Moroccan culture hearing voices, seeing things or dead persons, being influenced by an outside force or sensations of floating above or outside of the body can represent symptoms of emotional distress or can be part of a (‘dissociative’) possession state. In contrast to the standard CASH, we rated such symptoms as “low confidence or not significantly present” (score 2-5 on the CASH) if such culturally accepted experiences were mentioned by the
patient or a key informant. The third area of misinterpretation of symptoms is the presence or absence of depressive symptoms. There is no word for depression in Berber, the most commonly spoken language by Moroccan immigrants in the Netherlands, and admitting to such feelings is a taboo in this culture. In appendix 1 we present two cases in order to illustrate some of these differences.

As with the standard CASH, the medical files of the subjects were screened and if necessary the rater contacted the physician. The CASH-CS interviews were administered by the some of the authors (T.Z./ J.M.H./ H.E./A.G.L.O.) and a Moroccan psychiatrist who all were experienced cross-cultural psychiatrists (or residents) who were trained to use CASH and CASH-CS. The cultural sensitive interviews also included the Retrospective Assessment of the Onset of Schizophrenia (IRAOS) (Häfner et al., 1992), an interview with a key informant and the patient him/herself to elicit additional cultural background information, e.g. on the history of the illness and help-seeking . The CASH-CS and the narrative histories about the patients’ illnesses based on these questionnaires were discussed to arrive at a second consensus DSM-IV diagnosis. Besides the first author and the research nurse all psychiatrists participating in this research were present during most of these meetings.

Whenever the interviewer judged that the Dutch language level of the Moroccan patient was insufficient, an interpreter was asked to translate the interview. In the case of the CASH-CS, always the same interpreter was used, who had also participated in training sessions for the interview.

2.3. Statistical analysis

Denominators in the study were based on data provided by the Central Institute of Statistics (CBS) in the Netherlands. The CBS defines a person as a first generation immigrant when he/she was born outside the Netherlands, has immigrated at any later age to the Netherlands and has legal residence in the Netherlands. As second generation immigrant is considered an individual born in the Netherlands with at least one parent born outside the Netherlands. The CBS defines a person as native Dutch if both parents are born in the Netherlands.

First contact rates were calculated for suspected psychosis (all cases which fulfilled inclusion criteria), psychotic disorders (those who received a DSM IV diagnosis of schizophrenia, schizophreniform disorder, schizoaffective disorder, delusion disorder, brief psychotic disorder, major depression or bipolar disorder with psychotic features and psychotic disorder not otherwise specified). Incidence rates are calculated by dividing the number of the new cases by the number of person-years. The risk was calculated for the first and second
generation Moroccan immigrants, aged 15-54 in Utrecht. Gender and age-adjusted rate ratios (RRs) with 95% confidence intervals were calculated with Poisson regression as provided by the program Egret [Cytel Software, 1999] (MacMahon & Trichopoulous, 1996). We also calculated the risk for males and females separately.

3. Results

Within the 2-year study period, a total of 145 patients aged 15-54 were registered after having contacted the mental health services with a suspected psychosis (55% native Dutch) (Figure 1). After initial screening, 28 patients were excluded (71% native Dutch): 7 non-psychotic disorder (86% native Dutch), 1 died (native Dutch), 6 were not residents of Utrecht city (50% native Dutch), 5 were homeless (80% native Dutch) and 9 patients were registered despite a previous psychosis (67% native Dutch). After a second screening, another 15 patients were excluded (73% native Dutch): 4 patients with a substance-induced psychosis (all native Dutch) and 11 because of absence of psychotic symptoms (64% native Dutch). Finally 102 patients (65 males and 37 females) were eligible for the study: 48 native Dutch (52% male), 29 Moroccan (68% male) and 25 with other ethnicities. Willingness to participate in the study was somewhat higher among Moroccan patients (26/29 = 89%) than among native Dutch patients (37/48 = 77%), which in turn was higher than the response among other foreign origin patients (10/25 = 40%). However, after controlling for gender and age, these differences were not statistically significant.

All registered Moroccan patients with a suspected psychosis were born in Morocco, and all were considered first generation. (Figure 1)

Table 1 gives an overview of the population at risk and relative risks of all cases that were referred to the central reporting office with suspected signs of psychosis during the observation period.
First contact incidence of psychotic disorders among native Dutch and Moroccan immigrants in the Netherlands: influence of diagnostic bias

**Figure 1.** Flowchart of research from registration to two interviews in Utrecht, 1 April 2002 until 1 April 2004

<table>
<thead>
<tr>
<th>Sample group</th>
<th>Sample size</th>
<th>Person-years</th>
<th>First contact</th>
<th>Incidence rate</th>
<th>RRadj (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td></td>
<td></td>
<td>24334</td>
<td>29</td>
<td>11.9 (8.0 - 17.1)</td>
</tr>
<tr>
<td>Moroccan</td>
<td></td>
<td></td>
<td></td>
<td>11540</td>
<td>7.8 (3.6 – 14.8)</td>
</tr>
<tr>
<td>all</td>
<td>native</td>
<td></td>
<td>236338</td>
<td>48</td>
<td>2.0 (1.5 - 2.7)</td>
</tr>
<tr>
<td>all</td>
<td>Dutch</td>
<td></td>
<td>121408</td>
<td>23</td>
<td>1.9 (1.2 - 2.8)</td>
</tr>
</tbody>
</table>

Incidence rates are per 10,000

*Age-and sex-adjusted

**Age adjusted
3.1. Registration data

The overall first contact rate for a suspected psychotic disorder was 3.0 (95% CI 2.3-3.7) per 10,000 population. This rate was significantly different for native Dutch and Moroccan immigrants: 2.0 (95% CI 1.5-2.7) and 11.9 (95% CI 8.0-17.1) per 10,000 persons at risk respectively. The age and gender adjusted RR for Moroccans was 5.6 (95% CI 3.5-9.0).

3.1.1. CASH data

Based on the diagnoses made with the standard CASH, the overall age and sex adjusted RR for any psychotic disorder was 7.9 (95% CI 4.7-13.5) (Table 2). For males and females age-adjusted RRs were 9.7 (95% CI 5.0-19.2) and 5.4 (95% CI 2.2-13.5) respectively. The age and sex adjusted rate ratio of schizophrenic disorders, was 7.8 (95% CI 4.0-15.2). RRs for males and females were 12.4 (95% CI 5.3-29) and 3.1 (95% CI 0.8-11.2) respectively. All Moroccan and 84% of native Dutch participants with a possible psychotic disorder were diagnosed with one of the psychotic disorders; 65% of the Moroccan and 51% of the native Dutch participants with a possible psychotic disorder were diagnosed as having schizophrenia.

3.1.2. CASH-CS data

Based on the CASH-CS and the IRAOS, the overall age and gender adjusted RR of any psychotic disorder was 4.2 (95% CI 2.3-7.9). The RRs for males and females were 4.9 (95% CI 2.2-10.5) and 3.0 (95% CI 1.0-9.3) respectively. The age and gender adjusted rate ratio of schizophrenic disorders was 1.5 (95% CI 0.5-4.3). For males it was 2.4 (95% CI 0.8-7.7) and for females the rate ration could not be calculated due the absence of schizophrenia among Moroccan females in our sample. The age and gender adjusted RR for Moroccan versus native Dutch patients with a suspected psychosis but no psychotic disorder on evaluation was 23 (95% CI 8.0-68). Non-psychotic Moroccan patients (n=11) were diagnosed with a mood disorder without psychotic features (n=7), a factitious disorder (n=3) or a dissociative disorder (n=1). Non-psychotic native Dutch patients (n=5) were all diagnosed with a non-psychotic bipolar disorder. Fifty-eight percent of Moroccan and 86% of Dutch native participants with a possible psychotic disorder were diagnosed to have one of the psychotic disorders, and 15% of the Moroccan patients and 59% of the native Dutch participant with a possible psychotic disorder received a diagnosis of schizophrenia according to the CASH-CS.
Table 2. Comparing the incidence, the age and sex-adjusted relative risk ratio and frequency of psychotic disorders and non-psychotic disorders according to CASH and CASH-CS

<table>
<thead>
<tr>
<th>Patients* N=63</th>
<th>All psychotic disorders1 cases(male/ female) incidence2 rate (95%CI)</th>
<th>Schizophrenic disorders3 cases(male/ female) incidence rate (95%CI)</th>
<th>Non-psychotic disorders4 cases(male/ female) incidence rate (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>35/22</td>
<td>2.2 (1.7-2.8)</td>
<td>1.4 (1.0-1.9)</td>
</tr>
<tr>
<td>CASH { Moroccan</td>
<td>19/7</td>
<td>10.7 (7.0-15.7)</td>
<td>7.0 (4.1-11.2)</td>
</tr>
<tr>
<td>CASH-CS { Moroccan</td>
<td>11/4</td>
<td>6.2 (3.5-15.7)</td>
<td>1.6 (0.4-4.2)</td>
</tr>
<tr>
<td>Natives</td>
<td>16/15</td>
<td>1.3 (0.9-1.9)</td>
<td>7.8 (4.0-15.2)</td>
</tr>
<tr>
<td>CASH-CS { Natives</td>
<td>17/15</td>
<td>1.4 (0.9-1.9)</td>
<td>4.5 (2.3-8.1)</td>
</tr>
</tbody>
</table>

*: study participants
1. Includes DSMIV categories schizophrenia, schizophreniform disorder, schizoaffective disorder, delusion disorder, brief psychotic disorder and psychotic disorder not otherwise specified and major depressive or bipolar disorder with psychotic features
2. Incidence rates are per 10000 and RRs are adjusted for age and sex
3. Includes DSMIV categories schizophrenia, schizophreniform disorder, schizoaffective disorder
4. Includes mood disorders without psychotic features, factitious disorders and dissociative disorders
4. Discussion

The aim of this study was to investigate whether first contact incidence of schizophrenia and other non-affective psychotic disorders among Moroccan immigrants would remain higher than among the native Dutch if a cultural sensitive instrument was used instead of a standard diagnostic interview. To our knowledge this is the first study to assess the impact of a systematic application of the principles of cultural formulation in the context of a standardized diagnostic interview.

In the current study, the overall observed risks of first contact with mental health services because of a suspected psychotic disorder of all psychotic disorders and of schizophrenia obtained by the standard CASH interview was higher among Moroccans compared with the ethnic Dutch and the relative risk was even higher than the one reported in the previous incidence study (Selten et al., 2001). The RR for psychotic disorders and schizophrenic disorders in this study were 4.8 (CI 95% 3.1- 7.5) and 5.0 (CI 95% 2.8- 8.9) respectively. However, in the current study the RR for broadly defined psychosis was substantially attenuated when a culturally sensitive diagnostic procedure was applied but remained statistically significant (7.9 → 4.2), while the RR for schizophrenia became non-significant (7.8 → 1.5).

Surprisingly during the observation period no second generation Moroccan immigrants contacted the central reporting office in Utrecht. This was independent of the type of interview used. We were therefore unable to replicate the extremely high relative risks 9.3 (95% CI 3.7-23.4) for second generation Moroccan immigrants, reported in The Hague. This failure can not be explained by the number for the second generation Moroccans in Utrecht: the number of person-years at risk for the study period for this group in Utrecht was 4206, which is almost twice as much as for the same period in The Hague with 2172 person-years at risk.

A limitation of the current study, or at least a deviation from the study we partly replicated (Selten et al., 2001), is that the background information obtained by key informants with the IRAOS was not available for the diagnosis based on the standard CASH and also, in contrast to the set-up of that study the diagnostic team which used the standard CASH was not blind to the ethnic background of the patients. In the Hague study (Selten et al., 2001), psychiatric residents interviewed patients using the (CASH) and screened the medical file. A research nurse interviewed key informants using the (IRAOS). A narrative history of the patient’s illness omitting any clue to the patient’s ethnicity was then used during a diagnostic meeting where two psychiatrists, who remained blind to ethnicity, made a consensus DSM-
IV diagnosis. This difference in availability of information, therefore, may explain why we found even higher RR’s with the standard CASH than the Hague study (Selten et al., 2001). It appears therefore that the method used by them, which was also used in the AESOP incidence study (Fearon et al., 2006) takes away some of the ethnic bias at the level of diagnostic decision making. However, it does not preclude misinterpretation of culturally appropriate expressions of distress as signs of psychosis at the time of the interview when symptom ratings are assigned. This may, therefore, still lead to over-diagnosis of schizophrenia in ethnic minorities. However, one could argue that in our study clinicians who used the adapted version of the CASH may have been reluctant to diagnose schizophrenia among Moroccans (Zandi et al., 2008; Selten & Hoek, 2008). In the absence of a gold standard to ascertain which of the two diagnostic procedures renders the most “truthful” results, we have to rely on the results of a follow-up study investigating the possible differences between the two diagnostic procedures in terms of the stability of the diagnoses and the course and outcome of the disorders over an extended period of time (predictive validity). In a 30 months follow-up of the patients in this study, we showed that the prognosis for patients with a schizophrenia diagnosis according to the CASH was significantly better for Moroccan compared to native Dutch patients, whereas the outcome for non-schizophrenic patients according to the CASH was similar for Moroccan and native Dutch patients. In contrast, the prognosis for patients with schizophrenia according to the CASH-CS was very similar in Moroccan and native Dutch patients, whereas the outcome in non-schizophrenic patients according to the CASH-CS was significantly better in Moroccan compared to native Dutch patients (Zandi et al., submitted). These findings, indicate that the diagnoses according to the cultural sensitive CASH-CS had better predictive validity than those according to the standard CASH. We therefore feel that the absence of a significant difference between Moroccans and native Dutch patients in the treated incidence of schizophrenia according to a cultural sensitive diagnostic procedure is a valid observation and not the result of some reluctance of the interviewers to apply the diagnosis of schizophrenia to Moroccan patients.

According to the outcomes from the cultural sensitive version in this study differences in the incidence of first contact psychotic disorders between the ethnic groups became substantially smaller and the incidence of schizophrenia among Moroccans is no longer significantly higher than among ethnic Dutch people. Based on the CASH-CS 42% of the Moroccan patients with a suspected psychotic disorder were found not to be psychotic at al. For the native Dutch patients this occurred only in 14% of cases. These percentages were 0% and 16%, respectively based on CASH. The main differences between the outcomes based on the
two versions of the CASH resulted from high percentage of Moroccan patients who were re-classified from schizophrenia to non-psychotic disorders 29% or affective psychosis 47%. Relevant to this finding is the ongoing debate about the continuum of non-affective psychotic disorders to affective disorders (Bental, 2006; Myin-Germeys & van Os, 2007). Our study raises the question whether, if not schizophrenia, perhaps the incidence of affective psychosis is increased. For example, several studies have reported a higher prevalence rate of any psychiatric disorder among migrant populations in the Netherlands. (Wit de et al., 2008, Toet et al., 2003, van der Wurff et al., 2004). However, the current study does not warrant a final conclusion on this issue since it was at measuring the incidence of cases where psychotic symptoms are the main presenting feature. The study was not developed to find patients with a primary mood disorder. In fact, cases with a clear affective (non-psychotic) disorder were excluded from the study. The high numbers of affective psychosis and non-psychotic disorders among Moroccan patients detected by CASH-CS in this sample is probably a result of a failure to detect affective symptoms at the screening level. The main reason why we reclassified many patients as non-psychotic on the basis of the cultural sensitive version of the CASH was that with this instrument the presence of hallucinatory and delusion-like symptoms among immigrant patients is not automatically interpreted as perception disturbance or thought disorder indicative of psychosis. In our earlier study among Moroccan patients in Casablanca, Morocco (Zandi et al., 2008), hearing voices (mostly animals, a deceased parent, or a voice just calling his name), seeing a strange, dark man, or feeling insects (mostly ants) in the whole body were the most commonly reported symptoms in all patients, regardless of diagnosis. In that study, we showed that diagnoses based on the culturally sensitive version of the CASH displayed much better concordance with diagnoses made by local Moroccan psychiatrists than the standard version of CASH, with substantially lower numbers of schizophrenia cases according to CASH-CS and local clinicians.

The other source of difference between CASH and CASH-CS was the poor recognition of mood symptoms in the Moroccan population with the standard version of the instrument. In the current study we observed that most of Moroccan patients with putative acute psychotic symptoms had been suffering from mood symptoms for quite a while before asking professional help, usually in combination with one or more of these “psychosis-like” cultural expressions of distress.
5. Conclusion

Our study demonstrates the vital importance of knowledge about the cultural background of the patient and the use of the principles of cultural formulation for a valid evaluation of symptoms in ethnic and culturally different populations (Vega et al., 2006; Arnold et al., 2004; Littlewood & Lipsedge, 1981; Karno et al., 1983). In the current study a culture-sensitive approach resulted in a substantial attenuation of the relationship between migration status and as a consequence the elevated rate of schizophrenia became statistically non-significant. However, given the limited sample size, no final conclusion can be drawn about the presence or absence of a difference in incidence rates between native Dutch and Moroccan immigrant patient in the real world. On the other hand, we would like to emphasize that similar attenuations might have occurred in other studies that failed to (adequately) adjust for possible cultural bias in the diagnostic process.

Misinterpretation of symptoms may have serious consequences such as over-prescription of antipsychotics, under-prescription of potentially beneficial antidepressants and a negative influence on the prognosis of this group. We therefore would like to encourage the use of cultural formulation as a central element in the assessment of the symptoms of psychotic and affective disorders among immigrants.
Vinette 1

A 29-year old Moroccan woman was referred by her GP because she was hearing voices, seeing people who did not exist and had the fear she was followed by strangers. She was living with her sister already for months because she was afraid to be alone. During the standard CASH interview she confirmed all these symptoms and the interviewer noted two symptoms in the depression section. The diagnosis based on the standard CASH was schizophrenia, paranoid type.

In the second interview with the CASH-CS almost all symptoms of the depression section were scored with rather high severity. She was hearing sounds of animals particularly around her monthly cycles. For the patient her periods were the sign she was not pregnant. About seeing unknown people she said: “I am not really seeing a person, but I can feel a spirit that is arranged by someone to watch or follow me, it takes my fertility away!” She referred to this spirit as a ‘jinn’, which in Moroccan and other Islamic cultures is an accepted phenomenon. She told us that she can not clearly say what she can see during these periods because it looks like she is not in her own body any more. She said the sounds which she sometimes hears are actually inside of her head. Apart from hearing conversing voices which would occasionally comment on her behaviour she had no other first rank symptoms of schizophrenia and no bizarre delusions. Sometimes if she feels sad, she falls down to the ground and starts shaking all over. Her family confirms this is a sign of possession by a jinn. Talking about jinn, she said that it gives her sense of peace that her non-fertility is not just caused by a physical problem. During the IRAOS interview the patient’s sister said the patient has been trying to become pregnant for 8 years and the sadness of infertility was killing her. She was surprised that we asked so many times about hearing sounds and seeing pictures instead of asking about the deeper feelings of her sadness. Based on information obtained with the CASH-CS, and the cultural background information, we concluded that the pseudo hallucinations the patient was experiencing had a religious and mystical connotation and should not to be considered as pathological. The diagnosis was a severe depression without psychotic symptoms. A diagnosis of dissociative disorder not otherwise specified could also be considered since these experiences also fit the pattern of demon possession. However, such experiences are rather common in Moroccan culture and are quite familiar cultural expressions of distress during difficult periods of life.
Vignette 2

A 42 year old Moroccan man was referred with a high emergency request from his GP because of psychotic symptoms. According to the referral letter these symptoms started very acute. He started hearing voices, seeing people who did not exist and feeling followed by strangers acutely since the last 4 weeks. According to his wife he had been restless for quite a while. He had problems sleeping and had reversed his day-night rhythm for several moths. He became angry easily and they had relational problems because of his behavior. According to his sister this resulted from the stress after his younger brother was sentenced for 4 years in prison. In the CASH interview the patients answered ‘yes’ on practically every question, thus scoring positively on acoustic hallucinations (hearing voices, including some that commented on his behavior), visual hallucinations (seeing invisible men and animals) and delusions (feeling that he was being followed on the street, feeling he could read people’s thoughts, receiving messages through radio and television and feeling people were plotting against him). Only two symptoms of the mood section were scored as present. The diagnosis, based on the standard CASH interview, was schizophrenia, paranoid type. During a cross-cultural interview with the CASH-CS hardly any of these psychotic symptoms remained. In contrast, it became clear that he had experienced practically all symptoms of major depression. He told the interviewer that when he is very sad he can hear an unclear voice of a dog or a cow. Sometimes he could hear his father saying “you did not make it”. However, after further questioning it turned out that he was hearing his father “in his mind”. He said that he was ashamed to admit that he had been addicted to gambling and alcohol for several years. As a result of this he had a debt of around 12,000 euro and was afraid to be followed on the street by his creditors. He said that whenever he feels depressed it feels as if a dark shadow of a man is sitting on his shoulders. Further probing with the aid of the translator revealed that he was not certain of the reality of these experiences; they were more his feelings. Hearing voices of animals is quite common among rural Moroccan people. Hearing his father saying punishing words is a culturally appropriate expression of being ashamed. In the CASH-CS we scored these symptoms not being certain enough to accept these symptoms as psychotic. According to the history of his illness obtained by CASH-CS the diagnosis was a severe depression without psychotic symptoms.
Chapter 3

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